


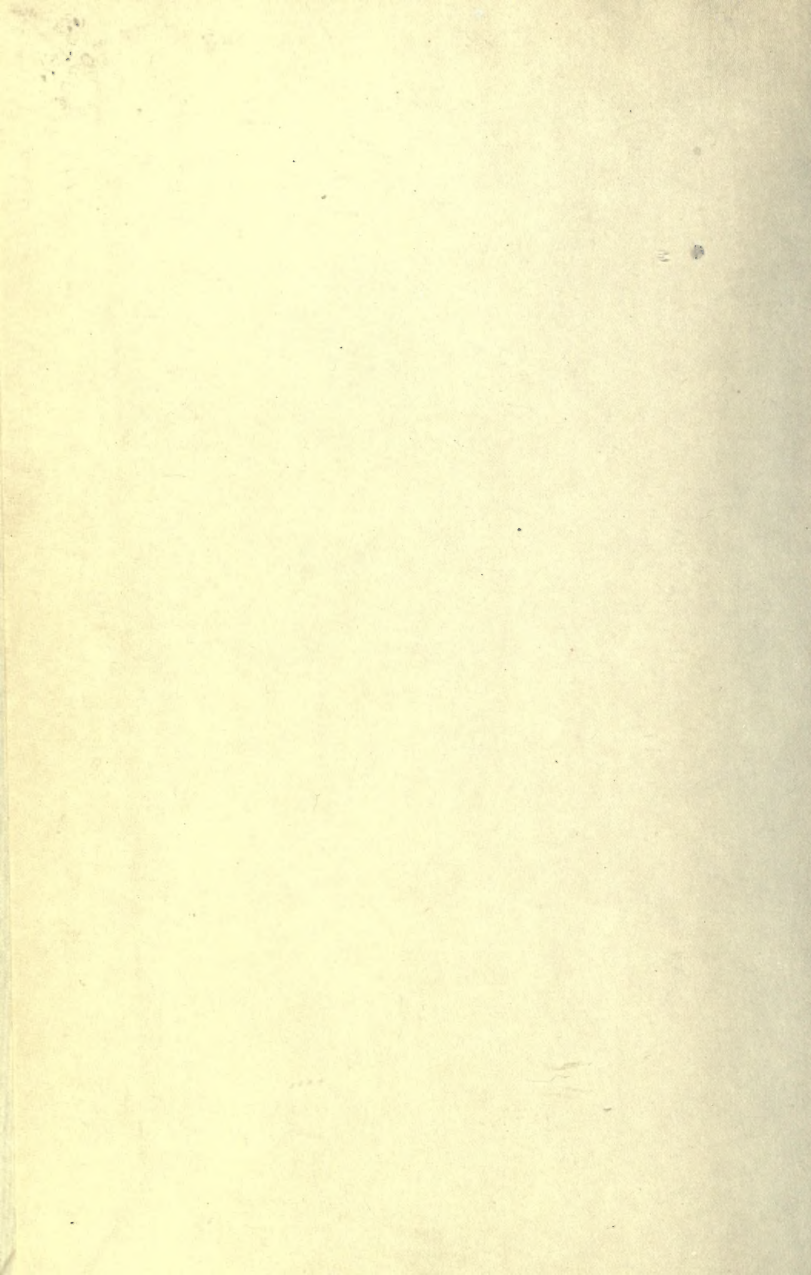


Presented to
The Library
of the
University of Toronto
by

Toronto Public Libraries



Digitized by the Internet Archive
in 2009 with funding from
University of Toronto



Audubon Magazine



Vol 4-6

TO

1902-04

WITH A VERY

Merry Christmas

I SEND YOU

Bird-Lore for 1902

[SIGNED]

562644
23 J 53

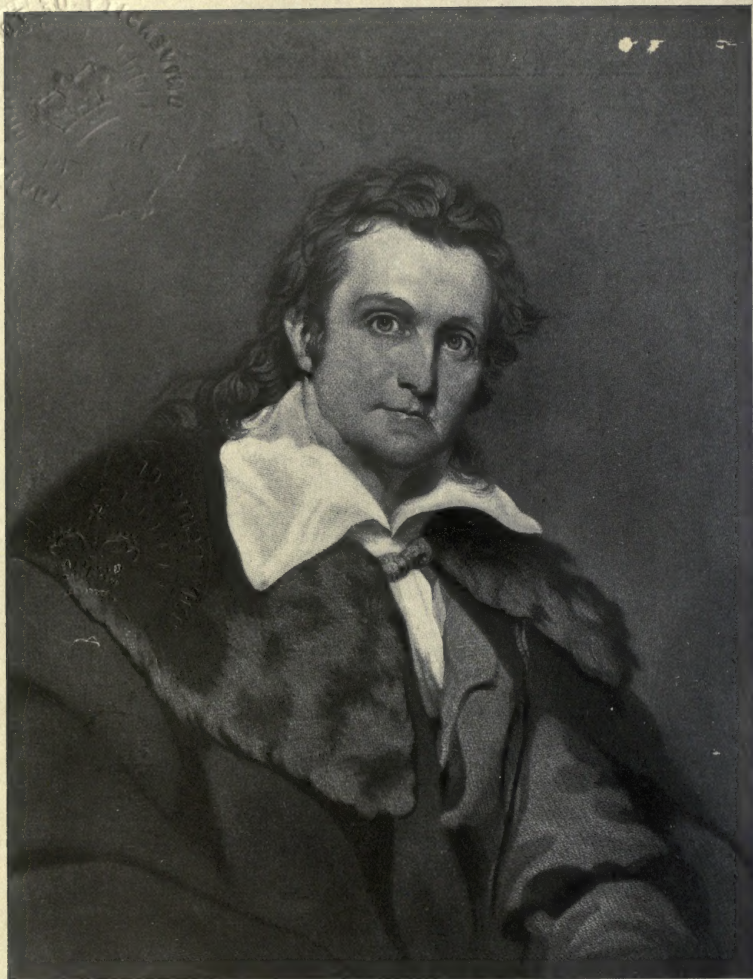
NO. 1, VOL. IV, TO BE ISSUED
FEBRUARY 1, 1902

The Macmillan Company

HARRISBURG, PA.

NEW YORK

LONDON



QL
671
A82
v.4-6

John. J. Audubon

Bird-Lore

AN ILLUSTRATED BI-MONTHLY MAGAZINE DEVOTED TO
THE STUDY AND PROTECTION OF BIRDS

EDITED BY

FRANK M. CHAPMAN

Official Organ of the Audubon Societies

AUDUBON DEPARTMENT EDITED BY

MABEL OSGOOD WRIGHT



VOLUME IV—1902

THE MACMILLAN COMPANY
HARRISBURG, PA., AND NEW YORK CITY

COPYRIGHT, 1902
BY FRANK M. CHAPMAN

119545-

111 INDEX TO ARTICLES IN VOLUME IV BY AUTHORS

- Abbott, Clinton G., A Christmas Bird Census, 27; Notes on the Golden-winged Warbler, 96; Photographs by, 147.
- Abbott, Gerard A., A Grebe Colony, 85.
- Allen, Francis H., The Nuttall Club, 12.
- Baker, Philip, A Christmas Bird Census, 30.
- Baldwin, Mrs. L. G., A Christmas Bird Census, 30.
- Barnes, Fuller, A Christmas Bird Census, 26.
- Beebe, C. William, photograph by, 149.
- Blatchley, Ralph, A Christmas Bird Census, 30.
- Brewster, William, Voices of a New England Marsh, 43.
- Bridge, Mrs. L. E., List of Birds Observed, 151.
- Brooks, Martha W., Photograph by, 17.
- Bruen, Frank, A Christmas Bird Census, 26.
- Cady, W. G., A Christmas Bird Census, 29.
- Carter, John D., A Christmas Bird Census, 29.
- Crosby, Ernest, The Veery's Note, 119.
- Crosby, M. S., A Christmas Bird Census, 27.
- Chapman, Frank M., How to Name the Birds, 20, 62, 88, 124, 155, 189; Reviews by, 33, 34, 68, 98, 132, 133, 134, 163, 164, 200, 201; Editorials by, 36, 70, 101, 135, 166, 204; The Great Auk in Florida, 97; Flamingoes' Nests, 177; How to Study Birds, 194.
- Cobb, Anna E., A Christmas Bird Census, 25.
- Coues, Elliott, Extract from Journal of, 8.
- Curtis, C. A., Recollections of Elliott Coues, 5.
- Dean, R. H., A Christmas Bird Census, 30.
- Dibble, Edmund B., A Bird's Bath, 94.
- Drummond, Mary, Sec'y, Report of, 136.
- Dugmore, A. Radclyffe, The Increase of the Chestnut-sided Warbler, 77.
- Dutcher, William, Minutes of the First Meeting of the National Committee of the Audubon Societies of the United States, 104.
- Dwight, J. Jr., Reviews by, 69, 133, 201.
- Eaton, Elon Howard, A Christmas Bird Census, 26.
- Eckstorm, Fannie Hardy, Concerning the Bad Repute of Whiskey John, 109.
- Elliott, D. G., Recollections of Elliott Coues, 3.
- Enigh, Perry, A Christmas Bird Census, 27.
- Eustis, Richard S., List of Birds Observed, 151; A Christmas Bird Census, 25.
- Evans, W. B., A Christmas Bird Census, 28.
- Fisher, A. K., Reviews by, 35, 99, 164, 202.
- Fine, Jack, A Christmas Bird Census, 28.
- Ford, Royal M., A Christmas Bird Census, 26.
- Herrick, Francis H., The Chebec's First Brood, 80.
- Hill, Elizabeth S., List of Birds Observed, 151.
- Hill, J. Irving, A Christmas Bird Census, 26.
- Hix, George E., A Christmas Bird Census, 28.
- Hunt, Mrs. C. J., A Christmas Bird Census, 28.
- Hutchins, John, The Nesting of the Yellow-throated Vireo, 120.
- Ives, Ella Gilbert, A Goldfinch Idyl, 19.
- Johnson, S. M., A Christmas Bird Census, 30.
- Justice, Hilda, A Christmas Bird Census, 29.
- Keller, E. F., Photograph by, 108.
- Kellogg, C. D., Photographs by, 2, 11.
- Kemble, Edward, A Christmas Bird Census, 27.
- Knowlton, F. H., A Talking Magpie, 97.
- Lee, Charlotte E., A Christmas Bird Census, 27.
- Lockwood, E. H., Sec'y, Report of, 206.
- Lord, Wm. Rogers, The Western Evening Grosbeak, 9.
- Love, Lawrence F., My Bluebirds, 67.
- Lucas, F. A., The Weapons of Birds, 182.
- Maynard, H. W., A Christmas Bird Census, 29.
- McConnell, H. B., A Christmas Bird Census, 29.

- Miller, Mary Mann, The Warbling Vireo a Nest Singer, 161.
- Miller, Richard F., A Christmas Bird Census, 28.
- Moore, W. H., Nesting Habits of the Chimney Swift, 162.
- Morison, Fred T., Prize Crow Essay, —.
- Morton, H. McI., The Destructive Effects of a Hailstorm Upon Bird Life, 143.
- Newkirk, Garrett, The Wood Thrush and the Whippoorwill, 85.
- Palmer, F. S., Reviews by, 35, 100 (initials omitted in error), 133, 165, 202.
- Parker, W. P., A Christmas Bird Census, 25.
- Patten, Jeanie Mary, Sec'y, Report of, 74.
- Pellet, Emily B., A Catbird's Musical Ability, 161.
- Princehorn, A. L., Photographs by, 142, 197.
- Putnam, Sarah L., Sec'y, Report of, 138.
- Reese, August, Sec'y, Report of, 138.
- Robins, Julia Stockton, Sec'y, Report of, 40.
- Rogers, Charles H., A Christmas Bird Census, 27.
- Rhoads, Samuel N., The Delaware Valley Club, 57.
- Rudy, Art., A Christmas Bird Census, 30.
- Saunders, A. A., A Christmas Bird Census, 26.
- Selleck, George H., Nighthawk Notes, 114.
- Seton, Ernest Thompson, On Journal Keeping, 175.
- Story, L. B., A Christmas Bird Census, 27.
- Stupp, Frederick J., A Christmas Bird Census, 26.
- Thomas, Edith M., English Starling, 61; The Sapsucker, 123.
- Thompson, Caroline B., A Christmas Bird Census, 29.
- Thwaites, Jessie T., Sec'y, Report of, 139.
- Turner, Howard M., A Christmas Bird Census, 25.
- Vanderpool, Mrs. I., Sec'y, Report of, 172.
- VanSant, Florence A., The Incredible Veery, 94; The Screech Owl's Valentine, 196.
- Walker, Archie, Bird Notes for April and May, 130.
- Warren, E. R., Photograph by, 185; Whiskey John in Colorado, 186.
- Webb, Roscoe J., A Christmas Bird Census, 30.
- West, Randolph, A Christmas Bird Census, 28.
- Wetmore, Aleck, A Christmas Bird Census, 30.
- Whitten, E. Marion, A Home in a Cellar, 96.
- Wright, Horace W., A Christmas Bird Census, 25; Wintering Robins and Waxwings, 198.
- Wright, Mabel Osgood, Editorials by, 37, 71, 103, 168.

INDEX TO CONTENTS

- Advisory Council, The, 18, 192; figured, 193.
 Alaudidae, 21.
 Allen, F. H., figured, 12.
 Allen, G. M., figured, 14.
 Allen, J. A., 12.
 Alstead School, 102.
 American Ornithologists' Union, 12, 167, 192,
 199; Check-List of, 135; program of, 203.
 Ampelidae, 190.
 Anatidae, 69.
 Arizona, 200.
 Arkansas, 100.
 Atkinson, Francis, P., 12.
 Attwater, H. P., 165.
 Audubon Conference, 172.
 Audubon Societies, Report of National
 Committee of, 104.
 Auk, Great, 97, 204.
 Auk, The, 121; reviewed, 69, 133, 167, 201.

 Bahamas, 177.
 Bailey, Harry B., 12.
 Bailey's, Mrs., 'Handbook of Birds of
 Western United States,' mentioned, 69,
 165, 204; reviewed, 202.
 Baily, William L., 39, 57; figured, 58.
 Barlow, Chester, death of, 199.
 Batchelder, C. F., figured, 12.
 Belonopterus chilensis, 185.
 Bent, A. C., figured, 14.
 Biological Survey, Circulars from, 165.
 Birds' Bath, 94.
 Birds, Weapons of, 182.
 Bird Census, 24, 188.
 Bird-Lists, 151.
 BIRD-LORE for 1903, 205.
 Bird Protection, 69, 71, 103, 106, 205; abroad,
 140, 171.
 Birds and Agriculture, 34.
 Birds and Fashions, 167.
 Birds, Decrease of, 138.
 Birds, 'How to Study,' 194.
 Birds, Identity of, 166.
 Birds, Questions about, 182.
 Birds, Shelter for, 71.
 Bird Study, 34.
 Bittern, American, 46.
 Bittern, Cory's, 69.
 Bittern, Least, 52, 53.
 Blackbird, Brewer's, 100.
 Blackbird, Red-wing, 44, 55; figured, 63.
 Blackbird, Rusty, 44, 56.
 Blatchley, W. S., 97.
 Bluebird, 44, 67, 131; figured, 191.
 Blue Jay, 144.
 Bobolink, 53, 55; figured, 63.
 Bonhote, J. Lewis, 177, 179.
 Boys, Shooting by, 138.
 Brewster, William, 12; figured, 14; Birds of
 the Cape Region, reviewed, 201.
 Brown, Elizabeth V., 74.
 Brown, S., figured, 58.
 Bulletin, Wilson, reviewed, 99.
 Bunting, Indigo, figured, 65, 129.

 California, 35, 100, 200, 202.
 Camera, Bird Study with, 101.
 Camp Robber, 186.
 Campbell's 'Nest and Eggs of Australian
 Birds,' reviewed, 132.
 Cassin, John, 99.
 Cassinia, reviewed, 133.
 Catbird, 99, 131, 160; figured, 156.
 Cats, 70, 162.
 Certhiidae, 157.
 Chat, Yellow-breasted, figured, 126.
 Chebec, 80, 131; figured, 82, 84.
 Chickadee, figured, 158.
 Chickadee, Carolina, 131.
 Clark, F., figured, 58.
 Colorado, 186, 200.
 Connecticut, 26, 120.
 Condor, The, reviewed, 35, 100, 133, 165,
 202.
 Cooper, J. G., 202.
 Cope, F. R., Jr., figured, 58.
 Cormorants, Double-crested, 146.
 Cormorant, Wingless, 100.
 Corvidae, 22.
 Coues, Elliott, 3; figured, 4.
 Cowbird, 166; figured, 63.
 Crane, 31; figured, 2, 11, 23.
 Creeper, Brown, figured, 157.
 Crossbill, White-winged, 69.

 Dakota, 69.
 Dakota, North, 86.
 Deane, G. C., figured, 14.
 Deane, Walter, figured, 12.
 Deane, Ruthven, 12.
 DeHaven, I. N., figured, 58.
 Dickcissel, 166.
 District of Columbia, 74.
 Duck, Black, 56.

- Durfee, Owen, figured, 12.
 Dutcher, William, 166; figured, 193.

 Emlen, A. C., figured, 58.
 Evans, J. W., figured, 58.

 Fashions, 167.
 Fellows, A. P., figured, 58.
 Finch, Purple, figured, 195.
 Fish for Hats, 167.
 Fisher's 'Two Vanishing Game Birds,' reviewed, 163.
 Flamingoes, 177; figured 181; nests of, figured, 178, 179, 182.
 Flicker, 131.
 Florida, 35, 97, 171.
 Flycatcher, Scissor-tailed, 133.
 Flycatcher, Traill's, 34.
 Fox, H., figured, 58.
 Fowler, H. W., figured, 58.
 Fowler's 'Tales From the Birds,' reviewed, 163.
 Francis, N. A., figured, 12.
 Frazer, M. A., 201.
 Freeman, S. M., figured, 58.
 French's 'Hezekiah's Wives,' reviewed, 98.
 Fringillidae, 64.
 Fuertes, L. A., illustrations by, 200.

 Galahazos, 100, 202.
 Gallinule, Florida, 42; figured, 51, 53.
 Gannet, 183.
 Githens, A. M., figured, 58.
 Gnatcatcher, 131; figured, 189.
 Goldfinch, 148; nest of, figured, 149.
 Goldfinch, Lawrence's, 100.
 Goose, Spur-winged, wing of, figured, 184.
 Grackle, Bronzed, 100, 144.
 Grackle, Purple, figured, 63.
 Grebe, American Eared, 86.
 Grebe, Holbæll's, 87.
 Grebe, Pied, 87.
 Grebe, Western, 86.
 Grinnell's 'Check Lists of California Birds,' reviewed, 163.
 Grosbeak, Evening, figured, 9, 10.
 Grosbeak, Pine, 24; figured, 12, 65.
 Grosbeak, Rose-breasted, 34, 133; figured, 64.
 Gull, Glaucous-winged, 99.
 Gull, Herring, 69.
 Gull, Point Barrow, 99.

 Hail-storm, 143.
 Hardy, Mrs., 186.
 Hay, O. P., 97.
 Hawaii, 201.

 Henshaw, H. W., 12; Birds of Hawaiian Islands, reviewed, 201.
 Heron, Blue, 183.
 Heron, Green, 46.
 Heron, Night, 46.
 Herrick, Francis, 74.
 Herrick's 'Home-Life of Wild Birds,' reviewed, 101.
 Hirundinidae, 89.
 Hitchcock, C. H., 97.
 Hodge's 'Nature Study and Life,' reviewed, 98.
 Hoffmann, Ralph, 80.
 Howe, R. H., Jr., figured, 14.
 Hummingbird, Ruby-throated, 34.
 Hutchinson, J. B., figured, 58.

 Idaho, 200.
 Icteridae, 62.
 Illinois Audubon Society, 169.
 Indiana, 30.
 Ingersoll, Ernest, 12.
 Jacana, 184.

 Jack, Whiskey, 109, 186.
 Jay, Blue, 34; figured, 23.
 Jay, Canada, 110.
 Jay, Rocky Mountain, 186.
 Job's 'Among the Water Fowl,' reviewed, 132.
 John, Whiskey, 109, 186; figured, 186, 187.
 Jones, Lynds, figured, 193.
 Journal Keeping, 175.
 Judd, S. D., 74.

 Kellogg's 'Elementary Zoölogy,' reviewed, 34.
 Kester, A., figured, 58.
 Keyser's 'Birds of the Rockies,' reviewed, 200.
 Kinglet, Golden-crowned, figured, 189.
 Kinglet, Ruby-crowned, figured, 189.

 Labrador, 69.
 Laniidae, 91.
 Lark, Horned, figured, 21.
 Leguat, François, 182.
 Lobvianellus, 184.
 Lord's 'Birds of Oregon and Washington,' reviewed, 68.
 Louisiana, 30, 172.
 Lower California, 201.

 Magpie, 97.
 Maine, 109, 134.
 Maine Ornithological Society, Journal of, reviewed, 134.

- Manitoba, 146.
 Martin, Purple, figured, 89.
 Maryland, 29, 203.
 Massachusetts, 12, 25, 43, 95, 151, 161, 198.
 McCadden, D. N., figured, 58.
 Meadowlark, 44.
 Meat-bird, 110.
 Meyers, F. G., figured, 58.
 Migration, 133.
 Millinery Trade Review, 169.
 Minnesota, 94, 143.
 Missouri, 30, 138.
 Mniotiltidæ, 125.
 Mocking Bird, 99, 133.
 Montana, 98, 99.
 Moose-Bird, 110.
 Morris, George S., 57; figured, 58.
 Motacillidæ, 127.
 Nebraska, 34.
 Nebraska Ornithologists' Union, Proceedings of, reviewed, 34.
 Nelson, E. W., figured, 193.
 New Brunswick, 162.
 New Hampshire, 80, 114.
 New Jersey, 11, 28, 57, 81.
 New Mexico, 8, 100.
 New York, 26.
 Newton, Alfred, 99.
 Nighthawk, 133; figured, 114.
 Nomenclature, 135.
 Nonpareil, 166.
 North Carolina, 74, 134.
 Nuthatch, Red-breasted, figured, 158.
 Nuthatch, White-breasted, figured, 158.
 Nuttall Club, The, 12.
 Oberholser, H. C., 74, 199; Studies of Horned Larks by, mentioned, 204.
 Ohio, 29, 99, 203.
 Oregon, 9, 98.
 Oriole, Baltimore, 131.
 Oriole, Orchard, figured, 63.
 Osprey, The, reviewed, 35, 99, 164.
 Oven-bird, 99, 131.
 Owl, Elf, 100.
 Owl, Saw-whet, 100.
 Owl, Screech, 196; figured, 197.
 Owl, Snowy, 134.
 Palmer's 'Bulletin 12,' mentioned, 69.
 Palmer, T. S., 74.
 Paridæ, 150.
 Pearson, T. Gilbert, figured, 193.
 Pearson's 'Stories of Bird-Life,' reviewed, 68.
 Pennock, C. J., figured, 58.
 Pennsylvania, 28, 57, 99, 133.
 Phæbe, 95.
 Pigeons, Domestic, 182; figured, 108.
 Pipit, American, figured, 128.
 Plectropterus gambensis, 184.
 Plover, Spur-winged, Spur of, figured, 183.
 Plover, Upland, 55.
 Plover, Wattler, figured, 183.
 Prize Essay, 31.
 Prize Essay Contests, 128, 130.
 Ptarmigan, White-tailed, 185; figured, 185.
 Purdie, H. A., 12.
 Rail, Carolina, 48, 49; figured, 53, 56.
 Rail, Little Black, 54; figured, 53.
 Rail, Virginia, 47; figured, 53.
 Rail, Yellow, figured, 54.
 Redpoll, 24.
 Red-wing Blackbird, figured, 147.
 Reed, J. Harris, 57; figured, 58.
 Rhode Island, 25.
 Rhoads, C. J., figured, 58.
 Rhoads, Samuel N., 57; figured, 58.
 Richardson, Sir John, 99.
 Ridgway's 'Birds of Middle and North America,' reviewed, 33; Part II of, mentioned, 204.
 Robin, 24, 53, 55, 99, 145, 198; figured, 142, 144.
 Rodriguez, 182.
 Roosevelt, Theodore, 16.
 Sable Island, 134.
 Sapsucker, 123.
 School, Nature-Study, 102.
 Scott, W. E. D., 12.
 Screamer, 185; spur of, figured, 184.
 Seiss, C. F., figured, 58.
 Serrill, W. J., figured, 58.
 Seton, Ernest Thompson, figured, 174.
 Seton's 'Lives of the Hunted,' reviewed, 34.
 Sheppard, E., figured, 58.
 Shooting, Spring, 203.
 Shrike, Northern, 24, 43; figured, 92.
 Shryock, W. A., figured, 58.
 Silloway's 'Birds of Flathead Lake,' reviewed, 98.
 Snipe, Wilson's, 45, 100.
 Snow Bunting, 43, 56.
 Solitaire, Wing of, figured, 182.
 Sornborger, J. D., figured, 14.
 Sparrow, Chipping, 99, 131.
 Sparrow, English, 138, 145, 162, 166.
 Sparrow, Field, 99, 131; figured, 65.
 Sparrow, Henshaw's, figured, 24.
 Sparrow, Ipswich, 134.
 Sparrow, Lincoln's, figured, 160.

- Sparrow, Song, 44, 45, 53, 55, 56; figured, 65.
 Sparrow, Swamp, 55, 56.
 Sparrow, Tree, 44, 45, 192; figured, 65.
 Sparrow, Yellow-winged, 133.
 Sparrow, White-throated, figured, 65.
 Spellman, H. M., figured, 14.
 Starling, English, 61; figured, 20.
 Sturnidae, 20.
 Stone, Witmer, 39, 57; figured, 58.
 Strong, R. M., 165; color work by, mentioned, 204.
 Sylviidae, 189.
 Swallow, Bank, figured, 89.
 Swallow, Cliff, figured, 89.
 Swallow, Tree, figured, 89.
 Swift, Chimney, 34, 162.

 Tanager, Scarlet, figured, 88.
 Tanagridae, 88.
 Tatum, J. W., figured, 58.
 Teal, Blue-winged, 34.
 Thayer Fund, 39, 40, 69.
 Thrasher, Brown, figured, 151.
 Thrasher, Crissal, 100.
 Thrush, Gray-cheeked, figured, 191.
 Thrush, Hermit, figured, 191.
 Thrush, Olive-backed, figured, 191.
 Thrush, Wilson's, figured, 191.
 Thrush, Wood, figured, 85, 191.
 Titlark, 56.
 Titmouse, Tufted, figured, 158.
 Towhee, figured, 65.
 Troglodytidae, 155.
 Trotter, Spencer, 57; figured, 58.
 Turdidae, 190.

 Veery, 94, 119.
 Vireo, Bell's, 34.
 Vireo, Blue-headed, figured, 125.
 Vireo, Red-eyed, figured, 99, 125.
 Vireo, Yellow-throated, 99, 120; figured, 125.
 Vireo, Warbling, 161; figured, 125.
 Vireonidae, 123.
 Virginia, 69, 99.
 Voelker, Charles, 57; figured, 58.

 Walter's 'Wild Birds in City Parks,' reviewed, 68.
 Warbler, Bay-breasted, 93.
 Warbler, Black-throated Green, figured, 126.
 Warbler, Blue-winged, 80.
 Warbler, Brewster's, figured, 66.
 Warbler, Canadian, figured, 126.
 Warbler, Chestnut-sided, figured, 76, 78, 79, 80.
 Warbler, Golden-winged, 96; nest of, figured, 96.
 Warbler, Nashville, figured, 126.
 Warbler, Parula, figured, 126.
 Warbler, Prothonotary, 34.
 Warblers, Worm-eating, figured, 126.
 Warbler, Yellow, 50.
 Warbler, Yellow-rumped, 166.
 Washington, D. C., 29.
 Water-Thrush, Louisiana, figured, 126, 130.
 Waxwing, Cedar, 198; figured, 90.
 Weed's 'Birds' Calendar,' reviewed, 164.
 West Indies, 201.
 Wheelock's 'Nestlings of Forest and Marsh,' reviewed, 132.
 Whippoorwill, figured, 85.
 Whitaker, W. L., figured, 58.
 Widmann, Otto, 165.
 Wilson Bulletin, reviewed, 164, 202.
 Wisconsin, 30.
 Wis-ka-tjon, 110.
 Woodcock, 163.
 Woodcock's 'Birds of Oregon,' reviewed, 98.
 Woodhouse, S. W., 60.
 Woodman, W., 12.
 Wren, Bewick's, 131.
 Wren, Carolina, 131; figured, 156.
 Wren, House, figured, 156.
 Wren, Marsh, Long-billed, 44, 50, 51; figured, 53.
 Wren, Short-billed, 51; figured, 53.
 Wright, S., figured, 58.

 Yellow-throat, Maryland, 50, 53; figured, 126.



A CROW ROOST

From a photograph made by moonlight near Salem, N. J., January, 1901, by C. D. Kellogg. (Plate exposed from 10.30 P. M. to 11.30 P. M.)

Copyright by C. D. Kellogg

Bird = Lore

3

A BI-MONTHLY MAGAZINE
DEVOTED TO THE STUDY AND PROTECTION OF BIRDS

OFFICIAL ORGAN OF THE AUDUBON SOCIETIES

Vol. IV

JANUARY — FEBRUARY, 1902

No. 1

Recollections of Elliott Coues

Coues as a Young Man

BY D. G. ELLIOT

THE youth of most persons who, in later life, may have attained a prominent position in the career—whether scientific or not—that may have been selected, possesses, doubtless to many, a particular interest, even though perhaps no personal acquaintance with the individual may have been formed. Those who have gained a creditable reputation, whether as facile writers, or independent investigators in science, or as actors in stirring deeds of bravery, or hardships overcome, excite the admiration and serve as a stimulant to others to go and do likewise.

It was probably impelled by some such thought as that just expressed that induced the editor of BIRD-LORE to request me to give to its readers a brief account of my recollections of Elliott Coues as a youth, before the ability that was in him had been generally recognized; and of necessity I may write only of that which is faintly reminiscent, for the mist of years partly hides from memory the days when Coues and the writer were boys together, and the great majority of the letters received from him during his youth, and from which much that would have illustrated his early methods of expression and energetic temperament, have long since been destroyed. Those who knew Coues, even in later life, must have been impressed by the intensity of the interest exhibited by him when speaking upon some subject that was congenial, and which was a matter of daily thought. How the bright eye grew brighter and more penetrating, the attention fixed and earnest, while the well-phrased sentences fell from his lips with a facile flow that was admirable. This faculty, that was noticeable to everyone who listened to him in his prime, was eminently characteristic of him even in his college days, and his letters at that time were remarkable for the keenness of the reasoning exhibited and the ingenuity of the various arguments employed. Good temper in

discussion was an attribute of his youthful days, and the courtesy shown in his intercourse with others in his maturer years was by no means lacking in his youth. Always high-spirited, the consciousness of overability to do seemed to be innate with him; and, both in my correspondence and conversations with him in those early days, I more than once had the impression that he was feeling his way, so to speak, as if not quite certain exactly



ELLIOTT COUES AT TWENTY-ONE

From a photograph in the possession of D. G. Elliot

how far he could trust himself in the line of argument he had for the moment adopted, or was himself seeking its weak points. Always a courteous debater, and equally so in his youth as in his more experienced manhood, he was very attractive in his student days, with his bright face, pleasant manners, and love of fun such as appealed to those of his age, but even in his college days or earlier the keen mind was as quick to seize upon a vulnerable place in an argument and turn to profit a point thus gained as in aftertimes when his large experience and ample knowledge made him so formidable an antagonist. And yet, the boy showed

no exultation over his victory beyond a bright smile and a clap on one shoulder, with the friendly question, "Am I not right?" or "Is that not so?" Although Coues gained a prominent position in various branches of natural science, and in literature as well, he was, above all, an ornithologist. From his earliest youth he loved birds, and delighted to talk about them and argue the various questions that a discussion of them gave rise to. His mind was always dwelling upon them, and he never lost an opportunity to speak of his favorite subject. I remember once when, arriving in Washington during his student days and seeking him at his residence, I was directed to a certain hall where a dancing class to which he belonged usually met and, on sending up my name, he came bounding down the stairs two steps at a time with a cheery "Hello, D. G. ! Glad to see you!" and almost immediately took up a certain subject on birds that we had had a discussion about in our correspondence a short time before. It was the absorbing passion, always foremost in his thoughts. Personally attractive in his mature years, Coues was no less so in his youth, and although our mutual interest in the one common absorbing pursuit of our lives may have brought us more closely together, yet even those who were without the special love of nature's works to afford a breadth of sympathy with him, and who knew him in his youth, could not fail to recognize the traits I, on another occasion, have attributed to him in his boyhood, of being "frank, simple, honest and confiding, with a boy's generous impulses and the glorious enthusiasm of the ornithologist manifest in speech and action."

Coues at His First Army Post

BY CAPT. C. A. CURTIS, U. S. A. (Retired)

On the 12th day of June, 1864, I reported for duty as acting quartermaster of a mixed column of infantry and cavalry, which had been ordered to rendezvous at the town of Los Pinos, New Mexico, in preparation for a march to Prescott, Arizona.

This command was composed of one company of regular infantry, a troop each of California and New Mexican cavalry, and was intended to act as an escort to a supply train going to provision a new fort near the Arizona town above mentioned.

This march was to be for fully five hundred miles through a hostile Indian region, where the Navaho and Apache ranged, and we were cautioned from departmental headquarters to hold ourselves in constant readiness to repel attack.

To be more explicit and show what a prize our train would have proved to a successful Indian foray, I will mention that the supply train

consisted of eighty wagons laden with commissary, quartermaster and ordnance stores, and twelve luggage wagons which carried the company and troop property, a herd of three hundred beef cattle and eight hundred head of sheep. To draw these ninety-two wagons, and furnish mounts for wagon masters, herders and other train men, took five hundred and sixty mules. Add to these the one hundred and sixty-three horses of the cavalry and officers, and it will be seen what constant vigilance against surprise was required through an almost unknown region, over desert and fertile plains, through barren and forest-clad defiles, or along the cottonwood fringed banks of running streams.

On the evening of the 15th day of June, at the mess table of the officers of the expedition, I first saw Doctor Elliott Coues. He was at that time still some months short of being twenty-two years old, and had but recently been commissioned an assistant surgeon in the army. He was a man of good features and figure, a little above medium height, with light brown hair and no beard or moustache, and of a complexion bronzed in his calling of field ornithologist. In his conversation throughout the meal we gathered that he had served as a medical cadet in the "Army of the Potomac" for some time before he was advanced to his present rank, and that he had hunted and collected birds in Labrador. He also remarked, with pardonable pride, that he had been sent as surgeon in charge of our column at the request of the Smithsonian Institution, that he might "shoot up the country between the Rio Grande and the Rio Colorado," and that as soon as he should report he had done so he was to be relieved and ordered to Washington. He also showed the commanding officer and myself an order from the quartermaster-general, requiring us to furnish free transportation at all times to the collections he should make.

Ornithology was the Doctor's special cult, but he was also prepared to make collections in other branches of natural history. For creeping, crawling and wriggling things he had brought along a five-gallon keg of alcohol. But the reptilian branch of his researches failed utterly in the early stage of the march, for the soldiers, in unloading and loading the wagon, had caught the scent of the preservative fluid, and, although it already contained a considerable number of snakes, lizards, horned toads, etc., the stuff, diluted from their canteens, did not prove objectionable to the chronic bibulants. Some of them, however, did look decidedly pale about the gills when the head of the empty keg was smashed in and the pickled contents exposed to view. They had really supposed they had been drinking chemically pure alcohol.

From the beginning of the march on the 16th day of June until its close, on the 29th day of July, Doctor Coues never ceased, except for a brief interval, making excursions along the flanks of the column and

arriving in camp with many specimens. Clad in a corduroy suit of many pockets and having numerous sacks and pouches attached to his saddle, he regularly rode out of column every morning astride of his buckskin-colored mule, which he had named Jenny Lind on account of her musical bray. Rarely did we see him again until we had been some hours in the following camp, but we sometimes heard the discharge of his double-barreled shotgun far off the line of march. He usually brought in all his pockets and pouches filled with the trophies of his search, and when he sat upon the ground and proceeded to skin, stuff and label his specimens he was never without an interested group of officers and men about him. To any one interested to learn the art of preparing the specimens he became an earnest and painstaking instructor. In time pretty much every person in the command was contributing something to the Doctor's packing cases.

When we reached the most dangerous part of our march and frequent attempts to stampede our grazing flock and herds were made by the lurking red man, the Doctor was cautioned to remain near the escort, but the flitting of rare plumage or the utterance of a strange note would often tempt him away and give us great anxiety until he returned. In three collisions with the Indians he showed us he was possessed of true soldierly spirit.

At one point the danger became so great that the discharge of firearms by any member of our party was strictly forbidden and all were told that should a shot be heard we were all to rally in its direction. One day we rallied in hot haste to the rear, only to meet the ornithologist holding up a beautiful and rare specimen, saying: "I really could not allow this bird to escape without causing a serious loss to science."

"Well," replied the commanding officer, "I shall deprive science of any further collections for a week by placing you in arrest and taking possession of your gun and ammunition."

The arrest, however, did not last until next morning, when the colonel, having slept off his vexation, delivered Doctor Coues a lecture on military science, with particular reference to service in an Indian country, and told him what he might expect if he did not remain near the escort and refrain from firing until we were out of that region.

Professionally, the Doctor was a good surgeon, and never neglected his duty. In Arizona for a year he continued his collecting throughout a large portion of the territory, and, when he was relieved from duty and ordered to Washington in November of 1865, he told me he should take with him over two hundred and fifty distinct species of birds and six hitherto unknown to science.

Extract from Journal of Elliott Coues' First Journey to the West*

"July 8, 1864.—We read of the delightful and equable climate of New Mexico; but we live and learn. Last night we shivered under blankets, and blew our numb fingers this morning. By ten o'clock it was hot; at eleven, hotter; twelve, it was as hot as—it could be. The cold nights stiffen our bones, and the hot days blister our noses, crack our lips and bring our eye-balls to a stand-still. Today we have traversed a sandy desert; no water last night for our worn-out animals, and very little grass. The 'sand-storms' are hard to bear, for the fine particles cut like ground glass; but want of water is hardest of all. For some time it has been a long day's march from one spring or pool to another; and occasionally more; and then the liquid we find is nauseating, charged with alkali, tepid, and so muddy that we cannot see the bottom of a tin cup through it. Here at our noon-day halt there is not a tree—scarcely a bush—in sight, and the sun is doing his perpendicular best. In the Sibley tent the heat is simply insupportable, and we are lying curled up like rabbits in the slight shade we can find in the rain-washed crevices of the 'Well.' Jacob's Well is an undisguised blessing, and, as such, a curiosity. It is an enormous hole in the ground, right in the midst of a bare, flat plain; one might pass within a hundred yards and never suspect anything about it. The margin is nearly circular, and abruptly defined; the sides very steep—almost perpendicular in most places; but a path, evidently worn by men and animals, descends spirally, winding nearly half way around before reaching the bottom. It is, in fact, a great funnel, a hundred yards wide at the brim, and about half as deep; and at the bottom there is a puddle of green, slimy water. Tradition goes, of course, that this is a 'bottomless pit;' and as the water had not perceptibly diminished after all our party and five hundred mules and cattle had had their fill, the story may go for what it is worth. The water is bad enough—warm, and probably muddy, though the mud is not visible, owing to the rich green color of the dubious liquid. It contains, however, some suspicious looking creatures, 'four-legged fishes,' said the man who caught several with hook and line. They suck the bait like catfish, and look something like them, barring the legs and long, fringe-like gills.†

"It is a scene of utter desolation; our bodily discomfort begets vague

* In connection with the preceding account by Captain Curtis the following extract from Coues' journal made on the march described, is of especial interest. It is reprinted from the 'American Naturalist' for June, 1871.

† They are the *Amblystoma nebulosum*, a kind of batrachian related to the salamanders and tritons of our brooks. The body is shining green above, with a few indistinct black spots, and silvery white below; eyes and gills black; a yellow tint about the legs. They can live a long time out of water, as their skin seems to exude a sort of perspiration that keeps them cool and moist. One that was quite dry and seemed dead, revived on being placed in a bucket of water.

fears, and a sense of oppression weighs us down. The leaden minutes creep on wearily and noiselessly, unbroken even by the hum of an insect; two or three blackbirds, hopping listlessly about as if they wished they were somewhere else but had not energy enough to go there, are the only signs of life that greet our faithful animals and ourselves."

The Western Evening Grosbeak

BY WM. ROGERS LORD

With photographs from nature

THE Evening Grosbeak is not generally well known upon the Atlantic coast. Whether it is a more familiar bird in the Central West I cannot say; but upon the Pacific coast, at all events in the states of Oregon and Washington, a variety of this beautiful creature is, at least, every two years — from February to May — very abundant and most wonderfully tame.

The western species is a little darker in shade than is the eastern bird, but otherwise very much the same in appearance and habit. The color is, for the most part, 'old gold,' darker about the head, with large white patches upon the wings. Of course, as the name indicates, these birds have a large bill, showing the use to which they put it in cracking pine - cones and other tough coverings of the seeds which furnish them food.

They come into the cities and towns of the Willamette valley, Oregon, and around Puget Sound, Washington, about every other year in large numbers. Though the usual flock is not above fifty or sixty birds, it is sometimes much larger and sometimes considerably smaller. They draw very near to the homes and the persons of men,





showing little fear. So easy are these little creatures to tame that having been fed frequently in several places,—particularly in and about Portland, Oregon,—after a day or two they have eaten out of the hand.

Only one person, however, so far as known, has succeeded in winning their confidence sufficiently to bring them to alight upon the person. A winsome lady of Oregon City, Oregon, has, during the periods of their last two visits, induced such familiarity that a number of them would rest upon her arms, hands and lap.

The three pictures in this issue

of BIRD-LORE indicate what was the habit of these birds in the spring of 1899. In the spring of 1901 some of the same birds returned to their friend, their identity being established by a blind eye in one and a misshapen leg in another. Such general friendliness toward human beings on the part of this particular species of bird is no doubt due to the fact that it lives, for the most part, so far from human habitations, and does not know our stone-throwing and shot-gun attitude toward the angels of beauty and song which our birds are to the world.

The Western Evening Grosbeak nests far off in the solitudes of the Coast Range and Cascade Mountains in these Pacific states, and visits the confines of human society for only a short time once in two years. Only two or three nests of the species have ever been found, although, within a year, Mr. A. W. Anthony, of ornithological fame, and three or four



other persons, have discovered what seem to be some of the Grosbeak summer homes in the Cascade and Coast Range Mountains.

What these birds, unafraid, do in their familiar relations with human beings is at the same time a sad revelation of our wrong attitude toward bird-life in general and a beautiful realization, in a small way, of the prophetic words of the poet Shelley, —

"No longer now the wingèd habitants,
That in the woods their sweet lives sing away,
Flee from the form of man; but gather round,
And preen their sunny feathers on the hands
Which little children stretch in friendly sport
Toward these dreadless partners of their play.
. . . Happiness
And science dawn, though late, upon the earth."



Copyright by C. D. Kellogg

A CROW ROOST

Photographed by moonlight near Salem, N. J., January, 1901, by C. D. Kellogg. Plate exposed from 4 A. M. to 5 A. M. The birds in the foreground had fallen from their roosts during the night. (See frontispiece, and also article on this Crow roost, by Witmer Stone, in BIRD-LORE for December, 1899.

Bird Clubs in America

I: THE NUTTALL CLUB

BY FRANCIS H. ALLEN

THE Nuttall Ornithological Club of Cambridge is, I believe, the oldest organization of its kind in the country, and, therefore, in spite of the modesty which befits its age and experience, may very properly be the subject of the first of a series of articles on bird clubs. The beginnings of this Club date back to 1871, when a few of the young men of Cambridge, Mass., met weekly in an informal way to compare notes and read ornithological literature. It was not until 1873, however, that the Club was organized, taking its name from the famous ornithologist of the early nineteenth century, who lived in Cambridge for many years. The original membership was nine, and the majority of these are still well known as ornithologists, though only two, Mr. Brewster and Mr. Purdie, are now resident members of the Club. The list was as follows: Francis P. Atkinson, Harry B. Bailey, William Brewster, Ruthven Deane, Henry W. Henshaw, Ernest Ingersoll, Henry A. Purdie, William E. D. Scott, and Dr. Walter Woodman.

This little Club was destined to make itself felt in the scientific world. Its most important service to ornithology was doubtless the publication of its 'Bulletin,' an interesting account of the starting of which, as well as of the early history of the Club itself, was given by Dr. J. A. Allen in an early number of that journal. 'The Bulletin of the Nuttall Ornithological Club' first made its appearance May 6, 1876. It was not without much preliminary discussion that so important a step was taken, and the question of issuing a journal of its own for the publication of scientific papers and notes had been agitated two years earlier, when the Club was hardly a year old. 'The American Sportsman' had at that time been adopted as a temporary medium, but the main question had only been postponed till the time was ripe for such an undertaking. 'The Bulletin,' as every ornithologist knows, was immediately recognized as the leading ornithological journal of the United States, and it won the instant support of scientific men all over the country. Its publication was continued until 1884, when it was succeeded by 'The Auk,' virtually the same journal, and with the same editor, Dr. J. A. Allen.

As 'The Auk' was the successor of 'The Bulletin,' so the American Ornithologists' Union itself was, in a great measure, an outgrowth of the Nuttall Club. On retiring from the presidency of the Union in 1890, Dr. J. A. Allen said in an historical address on the A. O. U.:

"The American Ornithologists' Union is the worthy offspring of the Nuttall Ornithological Club of Cambridge, Mass. . . . [The Nuttall

Club's] meetings were at first informal, but as years passed the Club became a well-organized publishing society, wielding, through its quarterly 'Bulletin,' a more than national influence. While its active membership numbered somewhat less than a score, its corresponding membership included all American ornithologists of note. Through their hearty coöperation the Club was able to concentrate the ornithological interests of the whole country, its journal proving not only a strong bond of union, but an indispensable medium of communication.

"In 1883 the time seemed ripe for a more direct and intimate union of American ornithologists, and early in the year the matter began to receive serious thought on the part of several members of the Club, resulting in the call issued in July of that year for a congress of ornithologists to meet in New York the following autumn. The project met with favor, a large proportion of those invited responding to the call, which resulted in 'The American Ornithologists' Union, founded in New York, September 26, 1883.' In effect the Nuttall Ornithological Club was thus transformed into a national, or rather an international organization, to which it magnanimously transferred its quarterly journal, and with it much of its prestige and influence."

Before the launching of the 'Bulletin' many of the younger ornithologists in other parts of the country had been elected as corresponding members of the Club, but professional ornithologists had been excluded out of modesty. Now, however, with a dignified journal on its hands to vouch for its scientific standing and to bring new responsibilities, the Club took courage to invite the leading ornithologists to join as either resident or corresponding members, and, somewhat to the surprise of these young men, their elders seemed very glad to identify themselves with them. Dr. J. A. Allen, who was at that time in charge of the birds at the Museum of Comparative Zoölogy, at Cambridge, became a resident member in April, 1876, and soon after the issue of the first number of the 'Bulletin' was made its editor-in-chief.

The success of the Nuttall Club as a scientific body now seemed assured, and, though it has been less prominently before the ornithological world since the A. O. U. took the 'Bulletin' off its hands, it still publishes, in its occasional 'Memoirs,' papers of importance which are too long for the pages of 'The Auk.'

Of late years, however—and perhaps at all times—the chief usefulness of the Club has been for its members. Its meetings—at first held weekly, now coming semi-monthly—have always had a delightfully informal character, and sociability and good fellowship have helped along the interchange of ornithological news and ideas. The early meetings were occupied largely with the reading of published papers, and for some time the



H. M. Spelman
Walter Deane

Owen Durfee
C. F. Batchelder, Treas.

N. A. Francis
F. H. Allen, Vice Pres.

G. C. Deane
William Brewster, Pres.

A. C. Bent
G. M. Allen, Sec.

R. H. Howe, Jr.
J. D. Sornborger

president gave out at each meeting a particular species to form a subject of discussion at the next. Special work of one kind or another has from time to time been undertaken by the Club. About the last of 1887, for instance, a continuous discussion began of the distribution of birds in eastern Massachusetts, groups of species being taken up at each meeting in systematic order. Some years later the desiderata in our knowledge of the life histories of New England birds were discussed systematically in a long series of meetings. These plans for regular work have served good purposes in their day, but the genius of the Club seems to demand as a rule a less formal method of expression, and at most of the meetings the programme consists of a paper or talk by one of the members on some subject that has occupied his attention, followed by a general discussion of the subject, the evening ending with miscellaneous notes from the recent observations of the various members.

I have spoken of the informality of the Club's meeting, but I will say a word more on that point because I think it is a characteristic feature. There is, of course, some semblance of parliamentary procedure, but members generally feel free to talk directly to one another without the fiction of addressing the chair. One result of this informality is the frank questioning that greets the member who chances for any reason to make a statement which seems to the others at all open to question. It very naturally happens occasionally that an eager young observer may allow his enthusiasm to get the better of his sober judgment, and at such times he must expect to be pinned down to his facts and cross-questioned shrewdly. Only the other day a member of many years' standing spoke of this habit of the Club's, and of an experience of his own in his younger days, when a certain rash statement was met by a fusillade of questions and remarks that was disconcerting, to say the least. He never forgot it, he said, and had ever since been more careful of his ground when addressing the Club. This wholesome custom of friendly catechization is not infrequently spoken of as one of the Club's real services to its members.

For many years, by the courtesy of its president, Mr. William Brewster, the meetings of the club have been held in his private museum, where, amid surroundings which are ideal for ornithologists and where smoking is allowed—and encouraged—the members have come to feel very much at home. The accompanying flashlight picture, taken at a recent regular meeting and without previous announcement, shows a corner of the museum. As some of the most distinguished members were not included, the picture cannot be regarded as one of the Nuttall Club, but only as of a representative meeting of it.

In the examination which I have been permitted to make of the minutes of the Club, I have noted a few matters of record which for one reason

or another may be of interest to the readers of this article. One is recorded under date of April 1, 1876—the same evening, by the way, when young Henry D. Minot, then a boy of sixteen, was elected a resident member. "Mr. Brewster spoke of the nesting of *P. [=Pyrgita] domestica* [now called *Passer domesticus*] in a box on his grounds. The nest at date was apparently finished, but the eggs not laid."

This was in the early days of the Sparrow invasion! Two years later, January 28, 1878, a memorable discussion of the "so-called English Sparrow question" was held, in which Messrs. J. A. Allen, Minot, Roosevelt, Ruthven Deane, Brewster, Frazar, and others took part; the evidence was decidedly against the bird, and no advocates appeared. The Mr. Roosevelt just mentioned was the same Theodore Roosevelt who is now President of the United States. He had become a member of the Club in the preceding November, and the records show him to have taken an active part in its meetings for some time. Other active members in the early days were Messrs. Allen, Brewster, Deane, and Purdie.

There are no special requisites for membership in the Nuttall Club beyond a good moral character, a genuine interest in the study of birds, a reputation for accuracy, and those qualities of mind and heart which make a man 'clubable.' It is natural that many of the new members should be recruited from that other Cambridge institution, Harvard College, and the freshman age forms practically the lower age limit for admission. There is no limit at the other end of the scale on this side of senility, but naturally most of the new members are young men of limited experience in ornithological work. On the other hand a number of the older members have achieved distinction in the scientific world, and thus it comes about that there are really two elements in the Club, though of course no hard and fast line can be drawn between them, and nothing but the best of feeling exists. The very best results come to the individual members from this association of youth and enthusiasm on the one hand and age and experience on the other, but it is easy to see that but little organized work can be accomplished.

Just how far, therefore, the Nuttall Ornithological Club can be taken as a safe and profitable guide in the formation and management of new bird clubs, it is rather difficult to say. It is obvious that the needs of most such new bodies must be very different from those of an old club composed of men of all ages and of every grade of attainment in scientific study, numbering among its Resident Members seven Fellows, one Corresponding Fellow, six Members, and many Associates of the American Ornithologists' Union, and occupying a territory which has been more closely examined ornithologically than any other in this country. The beginnings of the Nuttall Club, too, were at a very different period of ornithological history from the present. The earlier meet-

ings occupied themselves largely with the more technical branches of the study. Most new clubs, I take it, will devote themselves more to observation than to the examination of skins and will be especially interested in the brand-new art of bird-photography. They will wish, too, to systematize their work much more than has been possible for the Nuttall Club in recent years, and in this way they can accomplish much not only for their members but for the science which they are cultivating.

One of the first things a new club in a comparatively unworked region should do is to map out the fauna of its locality, and to compile migration data. This sort of thing can be done to much better advantage by co-operative work, of course, than by unorganized individual effort. Then there are countless other branches of study that may be taken up in this same systematic manner. Members should be encouraged, however, in investigation on independent lines, and some time should be made at each meeting for general notes of interest from observations in the field. Ornithological science has nearly as many branches as there are individual tastes and temperaments, and it is easy to conceive of a club of almost any size, each member of which should have his own particular specialty, while interested too in what every other member is doing—making it his ambition to know something of everything in ornithology, and everything of something. Perhaps such an organization would, after all, be the ideal bird club.



A WINTER VISITOR

Pine Grosbeak, photographed from life, by Martha W. Brooks, at Petersham, Mass., March 17, 1900

For Teachers and Students

'Bird-Lore's' Advisory Council

WITH some slight alterations and additions we reprint below the names and addresses of the ornithologists forming BIRD-LORE'S 'Advisory Council,' which were first published in BIRD-LORE for February, 1900.

To those of our readers who are not familiar with objects of the Council, we may state that it was formed for the purpose of placing students in direct communication with an authority on the bird-life of the region in which they live, to whom they might appeal for information and advice in the many difficulties which beset the isolated worker.

The success of the plan during the two years which it has been in operation fully equals our expectations, and from both students and members of the Council we have had very gratifying assurances of the happy results attending our efforts to bring the specialist in touch with those who appreciate the opportunity to avail themselves of his wider experience.

It is requested that all letters of inquiry sent to members of the Council be accompanied by a stamped and addressed envelope for use in replying.

NAMES AND ADDRESSES OF MEMBERS OF THE ADVISORY COUNCIL

UNITED STATES AND TERRITORIES

ALASKA.—Dr. C. Hart Merriam, Biological Survey, Dept. of Agr., Washington, D. C.

ARIZONA, Northern.—Dr. E. A. Mearns, Fort Adams, Newport, R. I.

ARIZONA, Southern.—Herbert Brown, Yuma, Ariz.

CALIFORNIA.—Charles A. Keeler, Calif. Acad. Sciences, San Francisco, Calif.

COLORADO.—Prof. W. W. Cooke, Biological Survey, Dept. of Agr., Washington, D. C.

CONNECTICUT.—J. H. Sage, Portland, Conn.

DELAWARE.—Witmer Stone, Academy Natural Sciences, Philadelphia, Pa.

DISTRICT OF COLUMBIA.—Dr. C. W. Richmond, U. S. Nat'l Mus., Washington, D. C.

FLORIDA.—Frank M. Chapman, American Museum National History, New York City.

FLORIDA, Western.—R. W. Williams, Jr., Tallahassee, Fla.

GEORGIA.—Dr. Eugene Murphy, Augusta, Ga.

IDAHO.—Dr. J. C. Merrill, Army Medical Museum, Washington, D. C.

ILLINOIS, Northern.—B. T. Gault, Glen Ellyn, Ill.

ILLINOIS, Southern.—Robert Ridgway, U. S. National Museum, Washington, D. C.

INDIANA.—A. W. Butler, State House, Indianapolis, Ind.

INDIAN TERRITORY.—Prof. W. W. Cooke, Biological Survey, Dept. of Agr., Washington, D. C.

IOWA.—Paul Bartsch, U. S. National Museum, Washington, D. C.

KANSAS.—Prof. D. E. Lantz, Chapman, Kan.

LOUISIANA.—Prof. George E. Beyer, Tulane University, New Orleans, La.

- MAINE.—O. W. Knight, Bangor, Me.
 MARYLAND.—F. C. Kirkwood, Box 364, Baltimore, Md.
 MASSACHUSETTS.—William Brewster, Cambridge, Mass.
 MICHIGAN.—Prof. W. B. Barrows, Agricultural College, Mich.
 MINNESOTA.—Dr. T. S. Roberts, 1603 Fourth avenue south, Minneapolis, Minn.
 MISSOURI.—O. Widmann, Old Orchard, Mo.
 MONTANA.—Prof. J. M. Elrod, University of Montana, Missoula, Mont.
 NEBRASKA.—Prof. E. H. Barbour, University of Nebraska, Lincoln, Neb.
 NEVADA.—Dr. A. K. Fisher, Biological Survey, Dept. of Agr., Washington, D. C.
 NEW HAMPSHIRE.—Prof. C. M. Weed, State Agricultural College, Durham, N. H.
 NEW JERSEY, Northern.—Frank M. Chapman, Am. Mus. Nat. History, New York City.
 NEW JERSEY, Southern.—Witmer Stone, Academy Natural Sciences, Philadelphia, Pa.
 NEW MEXICO.—Dr. A. K. Fisher, Biological Survey, Dept. of Agr., Washington, D. C.
 NEW YORK, Eastern.—Dr. A. K. Fisher, Biological Survey, Dept. of Agr., Washington, D. C.
 NEW YORK, Northern.—Egbert Bagg, 191 Genesee street, Utica, N. Y.
 NEW YORK, Western.—E. H. Eaton, Canandaigua, N. Y.
 NEW YORK, Long Island.—William Dutcher, 525 Manhattan ave., New York City.
 NORTH CAROLINA.—Prof. T. G. Pearson, Greensboro, N. C.
 OHIO.—Prof. Lynds Jones, Oberlin College, Oberlin, Ohio.
 OKLAHOMA.—Dr. A. K. Fisher, Biological Survey, Dept. of Agr., Washington, D. C.
 OREGON.—Dr. A. K. Fisher, Biological Survey, Dept. of Agr., Washington, D. C.
 PENNSYLVANIA, Eastern.—Witmer Stone, Acad. Nat. Sciences, Philadelphia, Pa.
 PENNSYLVANIA, Western.—W. Clyde Todd, Carnegie Museum, Pittsburg, Pa.
 RHODE ISLAND.—J. M. Southwick, Museum Natural History, Roger Williams Park, Providence, R. I.
 SOUTH CAROLINA.—Dr. Eugene Murphy, Augusta, Ga.
 TEXAS, Northern.—J. J. Carroll, Waco, Tex.
 TEXAS, Southeastern.—H. P. Attwater, Houston, Tex.
 TEXAS, Western.—Dr. E. A. Mearns, Fort Adams, Newport, R. I.
 UTAH.—Prof. Marcus E. Jones, Salt Lake City, Utah.
 VERMONT.—Dr. F. H. Knowlton, U. S. National Museum, Washington, D. C.
 VIRGINIA.—Dr. W. C. Rives, 1723 I street, Washington, D. C.
 WASHINGTON.—Samuel F. Rathbun, Seattle, Wash.
 WEST VIRGINIA.—Dr. W. C. Rives, 1723 I street, Washington, D. C.
 WISCONSIN.—H. Nehrling, Public Museum, Milwaukee, Wis.
 WYOMING.—Dr. Mortimer Jesurun, Douglas, Wyo.

CANADA

- BRITISH COLUMBIA.—John Fannin, Provincial Museum, Victoria, B. C.
 MANITOBA.—Ernest Thompson Seton, 80 W. 40th street, New York City.
 NEW BRUNSWICK.—Montague Chamberlain, Boston, Mass.
 NOVA SCOTIA.—Harry Piers, 'Stanyan,' Northwest Arm, Halifax, N. S.
 ONTARIO, Eastern.—James H. Fleming, 267 Rusholme Road, Toronto, Ont.
 ONTARIO, Western.—T. McIlwraith, Hamilton, Ont.
 QUEBEC.—E. D. Wintle, 189 St. James street, Montreal, Can.

MEXICO

- E. W. Nelson, Biological Survey, Department of Agriculture, Washington, D. C.

WEST INDIES

- C. B. Cory, 160 Boylston street, Boston, Mass.

How to Name the Birds

STUDIES OF THE FAMILIES OF PASSERES

BY FRANK M. CHAPMAN

SECOND PAPER

FAMILY 4. STARLINGS. *Sturnida*. 1 species.

Range.—This family contains some species distributed throughout the eastern hemisphere, including New Zealand and most of the islands of the Pacific, except Australia. It is represented in America only by the Starling, which has been recorded as accidental in Greenland, and is now naturalized and common in the region about New York city, where it was introduced by Mr. Eugene Schieffelin (who also is responsible for the introduction of English Sparrows into New York city, in 1864) in 1890 and 1891. The first year named, 80 birds were released in Central Park;



STARLING. Family *Sturnida*
One-third natural size

in 1891, 40 birds were given their freedom in the same locality. The species is now common in the upper parts of New York city, and has become established from Staten Island and Bayonne, N. J., on the south to Sing Sing on the north, and the west end of Long Island and Norwalk, Conn., on the east. It has been observed at New Haven, Conn., and Englewood, N. J., and is evidently rapidly increasing in numbers and adding to its range.

Season.—With us, the Starling is a permanent resident.

Color.—The Starling, in common with many members of its family, is

glossy black, the plumage being sprinkled with whitish dots, which are larger and more numerous in winter.

External Structure.—The Starling has a rather long, slender, flattened bill, which, in summer, is yellow, with the outer primary about half an inch long, long pointed wings, a short square tail, and strong, stout feet.

Appearance and Habits.—The Starling's long, pointed wings and short tail give it, in the air, the appearance of a flying spear-head. The wings move rapidly, but before alighting it sails for some distance. On the



HORNED LARK. Family *Alaudidæ*

One-third natural size

ground, its habit of walking and short tail readily identify it. In the fall Starlings gather in flocks, which, near New York city, sometimes contain over 100 individuals.

Song.—When in flocks Starlings utter a singular cackling, metallic chorus. They have also a long-drawn, clear, high, two-noted whistle, the second note being slightly lower than the first.

FAMILY 2. LARKS. *Alaudidæ*. 1 species, 1 subspecies.

Range.—The Larks, numbering about 100 species, are, with the exception of the Horned Larks (genus *Otocorys*), confined to the Old World. The Horned Larks are represented in the Old World by three or more species, and in this country by one species and some twelve races, or subspecies, two of which, the true Horned Lark and its small race, the Prairie Horned Lark, are found east of the Mississippi. The former breeds in Labrador and the Hudson Bay region, and ranges southward in winter to Virginia and Illinois; the latter breeds in the upper Mississippi valley from southern Illinois northward and eastward through western

Pennsylvania, central and northern New York, and Ontario, to western Massachusetts, Vermont and New Hampshire, and appears to be yearly extending its range eastward. In winter it ranges southward to South Carolina and Texas.

Season.—The Horned Lark is found in the middle-eastern states as a winter visitant between October and May. The Prairie Horned Lark is resident throughout the larger part of its breeding range, but wanders southward between October and April.

Color.—Larks are almost invariably colored dull brownish, gray, or sandy above and, with few exceptions, are whitish streaked or blotched with black below.

Size.—The average size of Larks is from 7 to 8 inches, few species being much smaller than these dimensions.

External Structure.—An unusually long hind toe-nail is the common characteristic of almost all Larks; the back of the tarsus is rounded; the outer primary is usually short or rudimentary, the bill, in our species, is rounded and rather slender, and in the genus *Otocorys* a pair of feather-tufts or "horns," appears on the sides of the head.

Appearance and Habits.—Larks are terrestrial and consequently are walkers, not hoppers. They inhabit open tracts of country, where, after the nesting season, they usually are found in flocks. The Horned Larks have the outer tail feathers marked with white, which shows when the bird takes flight—an excellent field-mark, which, however, is also possessed by the Vesper Sparrow.

Song.—Great variability is exhibited in the songs of Larks, the Sky Lark having vocal powers which have made it famous, while some species are comparatively unmusical. As a rule, however, they all agree in singing on the wing, as is customary among terrestrial species which do not mount to a perch when uttering their song.

FAMILY 3. CROWS AND JAYS. *Corvidæ*. 6 species, 3 subspecies.

Range.—The nearly 200 Crows and Jays known to science are found in all parts of the world except New Zealand. They are more common in the northern than in the southern hemisphere, and in America no Crows, and comparatively few Jays, are found south of the Isthmus of Panama.

Season.—Changing the nature of their food as circumstances require, Crows and Jays are usually resident wherever found. Our Crows and Blue Jays, however, migrate and are less common, or wanting, at the northern limit of their range in winter than in summer.

Color.—Crows and their near allies are, as a rule, entirely or largely black; Jays are usually more or less brightly colored, blue being varied with black and white, being a common type of coloration. In both groups the sexes are essentially alike in color.

External Structure.—Crows and Jays, with few exceptions, have a stout, rather long blunt bill, the nostrils are covered by projecting stiff, hair-like feathers; the feet are strong, the scales on the tarsi being clearly marked. The outer tail-feathers are usually the shortest, this being especially true of the Jays.

Appearance and Habits.—Our species are too well known to require



AMERICAN CROW

Family *Corvidæ*

BLUE JAY

One-third natural size

description. It is to be noted, however, that Crows are more terrestrial than Jays and are *walkers*, the latter being arboreal, and, consequently, *hoppers*. Crows, in the winter, gather in great flocks and frequent a common roost, while Jays at this season are usually found in small companies. Both our Crows and Blue Jay migrate by day.

Song.—While neither our Crows nor Jays may be said to sing, in the commonly accepted sense of the word, both have marked vocal ability and an extended vocabulary of call-notes which evidently are possessed of a definite significance.



What Bird is This?

Field Description.—Length, 5.00 in. Crown black, with a pale central stripe; back rufous-brown, the feathers with small black streaks and ashy margins; bend of the wing pale yellow; under parts white, more or less washed with buff, breast and sides streaked with black; tail feathers narrow and pointed.

NOTE.—Each number of BIRD-LORE will contain a photograph, from specimens in the American Museum of Natural History, of some comparatively little-known bird, or bird in obscure plumage, the name of which will be withheld until the succeeding number of the magazine, it being believed that this method of arousing the student's curiosity will result in impressing the bird's characters on his mind far more strongly than if its name were given with the picture.

The species figured in December is the Swamp Sparrow in winter plumage.

The Christmas Bird Census

The unpleasant weather so prevalent on Christmas day doubtless prevented many observers from taking the field, and explains the number of notes made on December 26. Compared with the results of the census made last year the present record also shows a marked absence of such northern birds as Pine Grosbeaks, Crossbills, and Redpolls. Northern Shrikes are apparently less common this year, and several species, notably the Robin, appear to be wintering further north than usual.

BOSTON, MASS. (ARNOLD ARBORETUM)

December 23, 9.15 to 3.15. Cloudy; wind, southwest, light; temp., 34° to 38° .

Bob White, 33; Sharp-shinned Hawk, 1; Downy Woodpecker, 1; Flicker, 3; Blue Jay, 19; Crow, 15; Goldfinch, 2; White-throated Sparrow, 2; Tree Sparrow, 14; Junco, 17; Song Sparrow, 8; Northern Shrike, 1; Myrtle Warbler, 2; Brown Creeper, 3; Golden-crowned Kinglet, 5; Chickadee, 4. Total, 16 species, 130 individuals. (On December 9, a female Red-winged Blackbird was seen upon the snow among tall grasses bordering a water-course feeding upon the seeds.)—HORACE W. WRIGHT.

CAMBRIDGE, ARLINGTON, AND BELMONT, MASS.

December 26, 8.45 to 4.45. Clear; wind, westerly, very light; temp., 35° .

Herring Gull, 450 (Fresh Pond, Cambridge, 300; still coming in at 9.30 A. M.); Ruffed Grouse, 1; Marsh Hawk, 1; small Hawk (probably Sparrow Hawk), 1; Downy Woodpecker, 1; Flicker, 6; Blue Jay, 4-5; Crow, 18-20; Purple Finch, 1; Goldfinch, 3-4; Tree Sparrow, 20-25; Junco, 19; Song Sparrow, 10-12; Winter Wren, 1; Brown Creeper, 3; Red-breasted Nuthatch, 1; Chickadee, 20; Golden-crowned Kinglet, 13. Total, 17 species, 563 individuals.

On December 17 one of us saw a Hermit Thrush in the Harvard Botanical Gardens, Cambridge, and on December 18, 4 Red-winged Blackbirds, 14 Meadowlarks, and 1 Rusty Blackbird in the marshes around Fresh Pond, Cambridge.—HOWARD M. TURNER and RICHARD T. EUSTIS.

FRESH POND MARSHES, WREN ORCHARD, BELMONT SPRINGS, AND ARLINGTON HEIGHTS, MASS.

December 26, 8.15 to 3.45:

Black-back Gull, 1; Herring Gull, 150; Downy Woodpecker, 2; Flicker, 6; Blue Jay, 5; Crow, 19; Cowbird, or. Red-winged Blackbird, 2; Purple Finch, 2; Goldfinch, 74; Tree Sparrow, 58; Junco, 47; Song Sparrow, 17; Swamp Sparrow, 2; Long-billed Marsh Wren, 1; Brown Creeper, 3; Chickadee, 12; Golden-crowned Kinglet, 6; Robin, 32. Total, 19 species, 441 individuals.—ARTHUR C. COMEY.

WORCESTER, MASS.

Time, 10 A. M. to 3 P. M. Cloudy, drizzling rain part the time; wind, almost none, northeast; temp., 34° .

Ruffed Grouse, 3; Blue Jay, 15; Crow, 6; Goldfinch, 1; Tree Sparrow, about 50; Junco, about 25; Brown Creeper, 2; Red-breasted Nuthatch, 3; Chickadee, 17; Golden-crowned Kinglet, 5. Total, 10 species, about 127 individuals.—W. P. PARKER.

PROVIDENCE, RHODE ISLAND

December 26, 11 A. M. to 2 P. M. Clear, later overcast; wind, west, light; temp., 42° .

Flicker, 1; Crow, 1; Blue Jay, 4; Goldfinch, 3; Tree Sparrow, 20 to 40; Junco, 12 to 20; Song Sparrow, 1; Chickadee, 4; Bluebird, 4 (one singing); Swamp Sparrow, 5; Cedarbird, 1. Total, 11 species, about 84 individuals.—ANNA E. COBB.

GLOCESTER TOWNSHIP, PROVIDENCE CO., R. I.

Time, 7.30 A. M. to 11 A. M. Thick, cloudy, with sprinkle of rain about 10.45; wind, southwest, light; temp., 33°.

Ruffed Grouse, 1; Hairy Woodpecker, 5; Blue Jay, 10; Crow, 5; Goldfinch, 4; Tree Sparrow, 12; Junco, 4; Myrtle Warbler, 1; Brown Creeper, 1; White-breasted Nuthatch, 2; Chickadee, 10; Golden-crowned Kinglet, 3. Total, 12 species, 58 individuals. (December 26, saw 4 Robins.)—J. IRVING HILL.

EDGEWOOD PARK, NEW HAVEN, CONN.

December 24, 2.35 P. M. to 4.45 P. M. Clear; light wind, west; temp., 43°.

Flicker, 1; Blue Jay, 1; Tree Sparrow, 2; Song Sparrow, 8; Junco, 2; Brown Creeper, 1; White-breasted Nuthatch, 2; Chickadee, 7; Golden-crowned Kinglet, 2; Robin, 3. Total, 10 species, 29 individuals.—A. A. SAUNDERS.

BRISTOL, CONN.

Time, 8.20 A. M. to 1 P. M. Dark, cloudy weather, light shower at 10 o'clock; wind, southwest, very light; temp., 33°.

Downy Woodpecker, 1; Blue Jay, 5; Crow, 4; Goldfinch (flock), 50; Tree Sparrow, 12; Junco, 8; Song Sparrow, 3; Brown Creeper, 1; White-breasted Nuthatch, 2; Chickadee, 8; Golden-crowned Kinglet, 8. Total, 11 species, 102 individuals.—ROYAL M. FORD, FULLER BARNES and FRANK BRUEN.

AUBURN TO OWASCO LAKE, N. Y.

Time, 10 A. M. to 3 P. M. Sky obscured by heavy clouds, snow falling greater part of day and during preceding night, heavy mantle of snow covering ground and trees; wind, moderate northeasterly; temp., 32°.

Horned Grebe, 3; Loon, 13; Herring Gull, 10; American Golden-eye Duck, 157; White-winged Scoter, 3; American Sparrow Hawk, 1; Screech Owl, 1; Downy Woodpecker, 3; American Crow, 20; Tree Sparrow, 5; Song Sparrow, 1; White-breasted Nuthatch, 3; Chickadee, 3. Total, 13 species, 223 individuals.—FREDERICK J. STUPP*.

VILLAGE OF CANANDAIGUA AND ALONG THE "OUTLET" TO CANANDAIGUA LAKE

Time, 11.30 to 2 o'clock. Also a moonlight excursion to the Crow-roost three miles north of town. Time, 5.40 to 7.20 P. M. Clear in the evening and freezing slightly, during the day misty, a damp snow clinging to the trees, part of the time a rainy snow falling; temp., 35°.

Herring Gull, 7; Black Duck, 15; Mallard, 2; American Golden-eye, 11; Bob White (tracks), 3; Red-tailed Hawk, 1; Rough-legged Hawk, 1; Sparrow Hawk, 1; Short-eared Owl, 1; Screech Owl, 2; Hairy Woodpecker, 1; Downy Woodpecker, 3; Red-headed Woodpecker, 1; American Crow, at least 3,000; Meadowlark, 1; Snowflake, 20; Tree Sparrow, 95; Song Sparrow, 2; Northern Shrike, 1; Brown Creeper, 1; White-breasted Nuthatch, 4; Chickadee, 5; Ring-necked Pheasant, 11. Total, 23 species, 3,189 individuals.—ELON HOWARD EATON.

RHINEBECK, N. Y.

Time, 9.30 A. M. to 5 P. M.; cloudy, no wind.

Red-tailed Hawk, 1; Crow, 20; Blue Jay, 2; Hairy Woodpecker, 1; Downy Wood-

pecker, 3; Flicker, 1; Song Sparrow, 6; Junco, 25; Goldfinch, 2; White-breasted Nuthatch, 3; Chickadee, 10; Bluebird, 1. Total, 12 species, about 75 individuals.

On December 27 I also saw here 1 Red-Shouldered Hawk, 11 Meadowlarks, 30 Tree Sparrows, 3 Golden-Crowned Kinglets and 1 Robin.—M. S. CROSBY.

SETAUKET, LONG ISLAND

Time, 9.45 A. M. to 12.10 P. M. Cloudy and threatening, with sprinkle of rain; wind, southwest, fresh; temp., 43°.

Red-shouldered Hawk, 1; Flicker, 1; Horned Lark, 10; Meadowlark, 12; Goldfinch, 20; Chickadee, 1; Robin, 16. Total, 7 species, 61 individuals (Shore-birds not included).—S. B. STORY.

HUNTINGTON, LONG ISLAND

December 26, 10.30 A. M. to 12.30 P. M. Wind, southwest, light; temp., 36°.

Downy Woodpecker, 3; Flicker, 2; Blue Jay, 4; American Crow, 21; American Goldfinch, 5; Junco, 17; Song Sparrow, 1; Myrtle Warbler, 2; White-breasted Nuthatch, 1; Chickadee, 5; Robin, 2. Total, 11 species, 62 individuals.—CHARLOTTE E. LEE.

NEW ROCHELLE, N. Y.

Time, 8.30 A. M. to 11.45 A. M. Cloudy; wind, very light easterly breezes and slight showers; temp., 41°.

Downy Woodpecker, 1; Red-headed Woodpecker, 1; American Crow, 26; Purple Grackle, 6; Song Sparrow, 3; American Goldfinch, 10; Junco, 16; Tree Sparrow, 19; White-throated Sparrow, 3; Brown Creeper, 1; White-breasted Nuthatch, 4; Chickadee, 10; Bluebird, 5; Total, 13 species, 105 individuals.—EDWARD KEMBLE.

NEW ROCHELLE, N. Y.

Time, 9.30 A. M. to 11.30 A. M. Cloudy; wind, south, light; temp., 40°.

Downy Woodpecker, 1; Red-headed Woodpecker, 1; Crow, 6; Starling, 3; Goldfinch, 3; White-throated Sparrow, 7; Tree Sparrow, 1; Junco, 20; Song Sparrow, 4; Swamp Sparrow, 2; Fox Sparrow, 2; Brown Creeper, 2; Bluebird, 15. Total, 14 species, 69 individuals.—PERRY ENIGH.

CENTRAL PARK, NEW YORK CITY

Time, 9.30 A. M. to 11.30 A. M. Cloudy, damp, and at times slightly rainy; wind, southeast to southwest, moderate; temp., 38°.

American Herring Gull, about 1,000; Starling, 20; White-throated Sparrow, about 100; Song Sparrow, 3; Golden-crowned Kinglet, about 3. Total, 5 species, about 1,126 individuals. Three Bluebirds were seen on December 15, and Cardinals, Robins, Downy Woodpeckers and Brown Creepers are frequently seen.—CHARLES H. ROGERS.

CENTRAL PARK, NEW YORK CITY

Time, 10.45 A. M. to 1 P. M. Light rain most of the time; wind, southerly, light; temp., 43°.

American Herring Gull (estimated), 550; Downy Woodpecker, 1; Starling, 48 (one flock, singing); White-throated Sparrow, at least 75; Song Sparrow, 4; Fox Sparrow, 3; Cardinal, 2; Brown Creeper, 1; Robin, 1. Total, 10 species, about 685 individuals.—CLINTON G. ABBOTT.

CENTRAL PARK, NEW YORK CITY

Time, 8.45 A. M. to 10.15 P. M. Cloudy; wind, brisk, southeast; temp., 44°.

Herring Gull, 1,000; Starling, 51; White-throated Sparrow, 20; Song Sparrow, 5. Total, 4 species, about 1,076 individuals.—GEORGE E. HIX.

PRINCETON, N. J.

Time, 11 A. M. to 12.47 P. M. Cloudy, slight haze and almost no wind; slight rain at noon; temp., 39°.

Flicker, 1; Crow, about 400; Junco, 6; Song Sparrow, 1; Cardinal, 1; Northern Shrike, 1; Tufted Titmouse, 1; Golden-crested Kinglet, 5; Robin, 1. Total, 9 species, about 417 individuals.—JACK FINE and RANDOLPH WEST.

LAKEWOOD, N. J.

Time, 11 A. M. to 1 P. M. Clear; wind, southeast, light; temp., 48°.

Hairy Woodpecker, 2; Downy Woodpecker, 3; Crow, 5; Blue Jay, 5; Goldfinch (singing), 9; Junco, 42; Song Sparrow, 1; White-throated Sparrow, 2; Brown Creeper, 1; White-breasted Nuthatch, 7; Chickadee, 10; Golden-crowned Kinglet, 8; Robin, 1; Bluebird (singing), 14. Total, 14 species, 110 individuals.

December 9, a Ruby-crowned Kinglet was seen.—MRS. C. J. HUNT.

MOORESTOWN, N. J.

Time, 7.40 A. M. to 5.50 P. M. Cloudiness, 50 per cent, at 12 M. sky uniform gray; at 2.45 P. M., showers; wind, light southwesterly; temp., 37½°.

Red-tailed Hawk, 2; Red-shouldered Hawk, 2; Sparrow Hawk, 3; Downy Woodpecker, 10; Flicker, 3; Horned Lark, 35; Blue Jay, 8; Crow, many hundred; Meadow-lark, 30; Purple Grackle, 8; Purple Finch, 7; Goldfinch, 40; White-throated Sparrow (sings), 40; Tree Sparrow, 63; Junco, 81; Song Sparrow (four in song), 48; Cardinal, 11; Winter Wren, 7; Brown Creeper, 4; Tufted Titmouse, 1; Chickadee, 9; Golden-crowned Kinglet, 10; Robin, 1; Bluebird, 5. Total, 24 species, 428 individuals (excluding Crows).—WM. B. EVANS.

DELAWARE RIVER MEADOWS, BRIDESBURG, PHILADELPHIA, PA.

Time, 8 A. M. to 9.30 A. M. Clear; wind, southwest, light; temp., 39°.

American Herring Gull, 3; Marsh Hawk, 3; Sparrow Hawk, 1; Crow, about 400; Field Sparrow, 3; Song Sparrow, 40. Total, 6 species, about 450 individuals.

On December 14, a flock of about 30 Snowflakes was seen, and on December 23 3 Red-winged Blackbirds were seen.—RICHARD F. MILLER.

FRANKFORD, PHILADELPHIA, PA.

Time, 12 M. to 4 P. M. Cloudy; wind, southwest, light; temp., 48°.

Red-shouldered Hawk, 1; Screech Owl, 1; Crow, 3; Goldfinch, 20; White-throated Sparrow, 5; Junco, about 200; Song Sparrow, 6; Cardinal, 1; Chickadee, heard. Total, 9 species, about 218 individuals.—RICHARD F. MILLER.

GERMANTOWN, PA.

Time, 11.15 A. M. to 12.45 P. M. Cloudy, damp; wind, none; temp., 40°.

Red-tailed Hawk, 1; Downy Woodpecker, 1; Flicker, 2; Crow, 5; Goldfinch, 16

(one singing); Cardinal, 2; Junco, 35; White-throated Sparrow, 20 (one singing); Song Sparrow, 18; Carolina Wren, 1 (singing); Golden-crowned Kinglet, 2. Total, 11 species, 103 individuals.

December 15, 2 Robins were seen.—CAROLINE B. THOMPSON and HILDA JUSTICE.

NEAR COATESVILLE, PA., TO THREE MILES SOUTHWEST OF WEST CHESTER, PA.

Time, 8 A. M. to 5 P. M. Partly cloudy to cloudy, light rain during part of afternoon; wind, none or light west or southwest; temp., 32°.

Red-tailed Hawk, 3; Sparrow Hawk, 3; Kingfisher, 1; Downy Woodpecker, 1; Hairy Woodpecker, 1; Flicker, 2; Phoebe*, 1; Horned Lark, 48; Crow, 75; Blue Jay, 1; Meadowlark, 35; Rusty Grackle*, 1; Goldfinch, 1; Tree Sparrow, 30; Song Sparrow, 40; Junco, 150; Cardinal, 2; Brown Creeper, 3; Winter Wren, 1; White-breasted Nuthatch, 4; Chickadee, 1; Golden-crowned Kinglet, 5. Total, 22 species, about 414 individuals.—JOHN D. CARTER.

CHELTENHAM, MD.

Time, 8.45 A. M. to 10 A. M. Overcast; temp., 43°.

Turkey Vulture Buzzard, 1; Sparrow Hawk, 1; Downy Woodpecker, 2; Flicker, 4; Crow, 3; Meadowlark, 1; Purple Grackle, 300 or 400 (this large flock was too far away to be seen distinctly; I had to rely upon the sound); Goldfinch, 40; White-throated Sparrow, 2; Tree Sparrow, 40; Field Sparrow, 6; Junco, 20; Song Sparrow, 15; Cardinal, 1; Tufted Titmouse, 10; Carolina Chickadee, 2; Golden-crowned Kinglet, 1; Bluebird, 2. Total, 18 species, about 500 individuals.—W. G. CADY.

WASHINGTON, D. C., NATIONAL ZOOLOGICAL PARK AND VICINITY

Time, 12 M. to 2.15 P. M. Damp, cloudy and threatening; drizzling at times; wind, southwest, light; temp., 40° to 50°.

Turkey Vulture, 3; Flicker, 3; Downy Woodpecker, 6; American Crow, 40; Cardinal, 10; Song Sparrow, 15; Junco, 30; White-throated Sparrow, 35; Goldfinch, 8; American Crossbill, 7; Winter Wren, 12; Carolina Wren, 10; Brown Creeper, 12; Carolina Chickadee, 15; Tufted Titmouse, 20; Red-breasted Nuthatch, 8; White-breasted Nuthatch, 10; Golden-crowned Kinglet, 40. Total, 18 species, 294 individuals.—HENRY WARNER MAYNARD.

CADIZ, OHIO

Time, 2 to 4 P. M. Cloudy; wind, light, southwest; temp., 38°.

Bob White, 50; Red-tailed Hawk, 1; Downy Woodpecker, 7; Cardinal, 3; Song Sparrow, 11; Tree Sparrow, 40; White-breasted Nuthatch, 8; Chickadee, 2; Tufted Titmouse, 1; Golden-crowned Kinglet, 3; Carolina Wren, 3. Total, 11 species, 129 individuals.—HARRY B. MCCONNELL.

GARRETTSVILLE, PORTAGE COUNTY, OHIO

Time, 2 to 4 P. M. Cloudy; wind, west, light; temp., 36°.

Ruffed Grouse, 6; Sparrow Hawk, 1; Downy Woodpecker, 4; Red-bellied Wood-

* I took special pains to be absolutely sure of the Phoebe and Rusty Blackbird. They were both seen at close range through good field glasses, and also fulfilled all the conditions in respect to voice.

pecker, 1; Flicker, 1; Blue Jay, 2; Tree Sparrow, 50; White-breasted Nuthatch, 8; Red-breasted Nuthatch, 2; Chickadee, 10. Total, 10 species, 85 individuals.—ROSCOE J. WEBB and J. H. TINAN.

RUSSELLVILLE, PUTNAM COUNTY, IND.

Time, 9 to 12 A. M. and 3 to 5 P. M. Cloudy; wind, southwest, light; temp., 37°.

Bob White, 10; Mourning Dove, 10; Red-tailed Hawk, 3; Downy Woodpecker, 6; Red-bellied Woodpecker, 2; Flicker, 1; Blue Jay, 1; Crow, 15; Tree Sparrow, 15; Junco, 25; Song Sparrow, 1; Cardinal, 5; Carolina Wren, 1; White-breasted Nuthatch, 5; Tufted Titmouse, 3; Chickadee, 1. Total, 16 species, 104 individuals.—PHILIP BAKER and RALPH BLATCHLEY.

LA CROSSE, WIS.

Cloudy, with moderate temperature, ranging from 26° to 30°, and light to fresh southerly wind.

Hairy Woodpecker, 1; Bohemian Waxwing, 25; Brown Creeper, 5; White-breasted Nuthatch, 1; Chickadee, 1. Total, 5 species, 33 individuals.—R. H. DEAN.

NORTH FREEDOM, WIS.

Time, 8.38 to 12.40. Cloudy, but about 10 o'clock the clouds cleared away; wind, southwest; temp., 32°+ to 38°+.

Bob White, 12; Ruffed Grouse, 1; Hairy Woodpecker, 3; Downy Woodpecker, 5; Blue Jay, 12; Crow, 12; Pine Grosbeak, 1; Redpoll, 1; Tree Sparrow, 40; Brown Creeper, 2; White-breasted Nuthatch, 11; Chickadee, 15. Total, 12 species, 115 individuals.—ALICK WETMORE and ART. RUDY.

LA GRANGE, MO.

Time, 9 to 11.30 A. M. and 2 to 4 P. M. Cloudy; wind, little or none; temp., 35°.

Bob White, 1; Red-shouldered Hawk, 2; Pigeon Hawk (?) 1; Hairy Woodpecker, 4; Downy Woodpecker, 13; Red-bellied Woodpecker, 6; Blue Jay, 10; Crow, 4; Purple Finch, 2; Goldfinch, 50; Tree Sparrow, 45; Junco, 35; Cardinals, 5; Northern Shrike, 1; White-breasted Nuthatch, 3; Tufted Titmouse, 8; Chickadee, 35. Total, 17 species, 225 individuals.—SUSAN M. JOHNSON.

BALDWIN, LA.

Time, 9.30 A. M. Clear; wind, west; temp., 70°.

Killdeer, 1; Turkey Buzzard, 8; Cardinal Grosbeak, 2; Red-winged Blackbird, possibly 500; Grackle, about 125; Blue Jay, 12; Crow, 18; Red-headed Woodpecker, 1; Mockingbird, 3; Wren, 2; Ruby-crowned Kinglet, 1; Tufted Titmouse, about 12.—MRS. L. G. BALDWIN.

For Young Observers

THE PRIZE ESSAY CONTESTS

The prize offered for the best account of the habits of the Crow has been awarded to Master Fred T. Morison, of Montclair, New Jersey, whose article appears below. Among other articles on this subject sent in competition, those by the following are deserving of especial mention: Maurice J. Clausen, Toronto, Ont.; Stewart Mackie Emery, Morristown, N. J.; Edmund W. Sinnott, Bridgewater, Mass., and Abe Tout, York, Nebraska.

The editor's object in offering prizes is to encourage original observation, and, as in writing a general account of the habits of a given species one is apt to draw more or less unconsciously on what has previously been written, it is proposed, in the future, to make the essays more original by having them based wholly on personal observation. The next subject, therefore, will be 'Notes on the Birds of February and March.' The article should be a summary, between 700 and 800 words long, of one's observations during these months, and should be sent to the editor in April. The prize offered for the article displaying the best powers of observation and description is any bird-book or books to the value of two dollars.

The Prize Crow Essay

BY FRED T. MORISON (aged 11).

ONE year ago last February I was suddenly taken very sick, obliging me to leave school and spend many months in the country. The time was spent with relatives in northwestern Pennsylvania, but a short distance from Lake Chautauqua, N. Y. I there found an excellent chance to study birds, which I did, when able, until my vacation was over. I saw birds of many kinds, but once having had a tame Crow I took great interest in the wild Crows, and now try to tell you about them. It did not take me long to find out that the Crows were wiser than the little boy who was studying them.

The Crow when full grown is from 17 to 18 inches long by 37 to 38 inches in extent. His plumage is a glossy black, with violet reflections. On one occasion I saw a Crow with some white on it in a flock. The Crow belongs to the 'Guild of Ground Gleaners,' a walker, three toes in front, one behind. His bill of fare is quite varied, consisting of snakes, frogs, insects and their larvæ, fruit, grains, and, if very hungry, carrion. In the spring he seems fond of following the plow to get cut-worms and other grubs, and later of pulling corn, and still later, sometimes flocks of thousands will swoop down on grain-fields, when wheat and corn are in the shock, place one of their number on guard to warn them in case of danger, and, unless driven away, leave but little threshing necessary. But if the sentinel sees a sign of danger it gives one

"Ka," at which all the Crows rise and fly to the woods. Although the Crows do considerable damage to the farmer in various ways, they do great good in destroying the enemies of his crops.

The Crow is as great a thief as the Bluejay in stealing birds' eggs and young. Though it will ravage any small bird's nest it can get at, the nest of the Robin, Wood Thrush, Catbird and Dove are the ones most often attacked. A curious thing about its egg-sucking is that it can pierce the egg with its bill and carry it away to some secluded spot to eat it.

In Pennsylvania its harsh *Ka, Ka, Ka-a-a* may be heard nearly all months of the year, but in the early spring it makes an effort to sing, making a noise similar to young Crows that have just left the nest. After the warm days come in April, when nesting, in contrast to their noisy cawings earlier in the season, they are silent and but little seen in the open fields from then until their young are hatched. They fly low, flitting like silent, black shadows among the bare-branched trees. I have watched them carrying the sticks for their nests in their bills; some were very heavy but they did not seem to mind the weight, so busy and happy were they at their work, as they wound around among the trees to mislead the observer as to their nesting place. The beech trees are most often selected for nesting in,—those that are scraggy and crotched with plenty of limbs to hide the nest. Although the nest is usually placed forty to sixty feet above the ground, I have seen them not more than twelve feet. The nest, a bulky structure, composed of about a peck of sticks, twigs, leaves and bark, is lined with horse-hair. The walls are often about five inches thick, one foot high and eight inches across. In this brush-heap the old mother Crow quietly sits from two to three weeks on eggs that vary considerably in size and color. The eggs, three to six in number, are about $1\frac{1}{2}$ inches in length by $1\frac{1}{4}$ inches in diameter. In color they are light greenish spotted with brown, black and purple.

When very young the Crow is anything but pretty, being mostly mouth, legs, and stubby pin feathers, but it is not long before his feathers grow out nice, black and shiny, and he learns to fly.

After the nesting season is over the Crows spend the night in large numbers in thick forests. Such a place is called a Crow roost. As each Crow arrives he is greeted with loud *Ka-ings*.

In the autumn the Crows flock together and fly about the fields, occasionally stopping in some tall trees seemingly to discuss some subject. At last they go to the forest, put a young Crow on guard, then have a lively meeting. They all talk at once until they seem to decide upon some plan, then move on, only to repeat it. In very cold weather the Crow goes southward, but soon returns to his old haunts.

Book News and Reviews

THE BIRDS OF NORTH AND MIDDLE AMERICA. A Descriptive Catalogue of the Higher Groups, Genera, Species and Subspecies of Birds Known to Occur in North America, from the Arctic Lands to the Isthmus of Panama, the West Indies and other Islands of the Caribbean Sea, and the Galapagos Archipelago. By ROBERT RIDGWAY. Part I. Family Fringillidæ—The Finches. Bull. U. S. Nat. Mus., No. 50, Washington: Government Printing Office, 1901. 8vo. Pages xxxi + 715; pls. xx.

This is the first in a series which, we are told, will, when completed, contain eight volumes, on the preparation of which Mr. Ridgway has been long engaged. The work treats of the classification of birds in general and presents keys to the families, genera, species and subspecies of the birds inhabiting the region covered by the title. The present volume deals with the Finches, of which 227 species and 162 subspecies are included.

In this, his preliminary volume, Mr. Ridgway dwells at some length on the classification of the higher groups of birds, discusses critically the views of Gadow, Fürbringer, Stejneger and other authorities, and gives numerous references to the literature of the subject. The conclusion is reached that the Finches represent the most highly developed birds, and in explanation of his selection of this, rather than the lowest family as subjects for his first volume, it is explained that lack of storage space in the Smithsonian Institution renders the lower forms of birds unavailable for study.

In his treatment of the Fringillidæ Mr. Ridgway has been wholly ungoverned by precedent. He says: "In all cases it has been the author's desire to express exactly the facts as they appear to him in the light of the evidence examined, without any regard whatever to preconceived ideas, either of his own or of others." His results, therefore, differ widely from those of other students of this family both in regard to grouping and in the inclusion, highly desirable to our mind, of certain genera among the Finches which

have formerly been placed among the Tanagers.

In regard to the recognition of species and subspecies, Mr. Ridgway writes: "The only question that can possibly exist in the mind of those who have this matter to deal with is the degree of difference which should be recognized in nomenclature, and in this respect there is more or less excuse for difference of opinion, according to one's ability to discern differences and estimate the degree of their constancy, the extent and character of material studies, and the amount of time which has been devoted to its investigation."

Mr. Ridgway, as those who are familiar with his work well know, has the "ability to discern differences" developed in a high degree. Years of training have so sharpened unusually acute perceptive powers that in studying the material on which the volume under consideration is based, doubtless not one race worthy of recognition by name has escaped his attention. Whether they are all worthy of such recognition is, as Mr. Ridgway says, a matter of opinion, but we should always remember that a name becomes proportionately valueless as it becomes uncertain of application.

On the other hand, in compensation, it may be said with equal truth that few or none of the forms which Mr. Ridgway has rejected are probably deserving of nomenclatural rank.

In execution this work bears evidence of skill and thoroughness in preparation which renders it above criticism. Mr. Ridgway possesses a positive genius for analysis and description which, developed by prolonged experience, places him, in our opinion, first among systematic ornithologists. The synonymy is compiled with rare exactness and an unusual discrimination in selection and annotation which make it not merely a matter of names but a guide to the distribution and biography of the species. Measurements are given with satisfactory exactness, the metric system being employed, and the work will be so indispensable to students of the

birds of North and Middle America that we trust the day is not distant when its author will complete his monumental undertaking.
— F. M. C.

PROCEEDINGS OF THE NEBRASKA ORNITHOLOGISTS' UNION AT ITS SECOND ANNUAL MEETING, OMAHA, JAN. 12, 1901. 8vo. Pages 101, plates x.

The Nebraska Ornithologists' Union numbers 4 honorary, 63 active, and 36 associate members. The officers are: President, I. S. TROSTLER; vice-president, Caroline Stringer; recording secretary, E. H. BARBOUR; corresponding secretary, R. H. WALCOTT, Lincoln, Nebr.; treasurer, Lawrence Bruner. The organization contains a number of well-known ornithologists, whose diversified interests in the study of birds resulted in the presentation of the following unusually attractive list of papers at their second annual meeting: Presidents' Address—Ornithology in Nebraska, and State Ornithological Societies, I. S. TROSTLER; Birds in Their Relation to Agriculture, LAWRENCE BRUNER; Injurious Traits of the Blue Jay, E. D. HOWE; Ornithology in the Schools, WILSON TOUT; Birds as Objects of Study in the Grades, CHAS. FORDYCE; Nest of the Ruby-throated Hummingbird (Ills.), F. H. SHOEMAKER; Young Rose-breasted Grosbeaks (Ills.), ELIZABETH VAN SANT; Breeding of the Prothonotary Warbler, and Observations on Traill's Flycatcher, M. A. CARRIKER, Jr.; Breeding Habits of Bells Vireo, MERRITT CARY; Notes Regarding a Chimney Swift Tree (Ills.), I. S. TROSTLER; Birds That Nest in Nebraska, LAWRENCE BRUNER; A Peculiar Disease of Bird's Feet (Ills.), E. H. BARBOUR; Internal Parasites of Nebraska Birds, HENRY B. WARD; Changes in the Bird Fauna of the Prairies, L. SESSIONS; Birds of Northwestern Nebraska, J. M. BATES; Collecting Trip to Sioux County, J. C. CRAWFORD, Jr.; Collecting Trip in Cherry County, J. S. HUNTER; Birds From Western Nebraska, A. R. GRAVES; Migration Records and Nebraska Records, R. H. WOLCOTT; In Memoriam: Martin Luther Eaton, R. H. WOLCOTT; Miscellaneous Notes.— F. M. C.

LIVES OF THE HUNTED. Containing a True Account of the Doings of Five Quadrupeds and Three Birds. By ERNEST SETON-THOMPSON. Charles Scribner's Sons, 1901. Pages 360. Drawings 200. Price \$1.75.

Three of the seven stories contained in this book relate to birds; they are entitled: 'A Street Troubadour; Being the Adventures of a Cock Sparrow,' 'The Mother Teal and the Overland Route,' and 'Why the Chickadee Goes Crazy Once a Year.' The last is inserted as an example of the author's early work and is "true only in its underlying facts;" the account of the Blue-winged Teal and her brood is based on personal observation; the history of the House Sparrow is founded on known facts in the life-history of the species. We should, however, question here the alleged change in the bird's nest-building instincts. So far as experiment and observation go a bird inherits its ability to construct a certain kind of nest, and this instinct is not affected by its being reared under artificial conditions.

Mr. Seton's phenomenal success has brought him a host of imitators, few of whom were ever heard of before they entered the field as his emulators. Between him and them, however, there exists a wide difference. Ernest Seton is a born naturalist. With unusually keen powers of observation and a broadly human sympathy with animal life, he has the scientist's longing to know. Twenty-five years before he became known to fame he was studying and recording the ways of birds and beasts. Nearly twenty years before the publication of 'Wild Animals I Have Known' he was contributing to scientific journals. His popularity, therefore, rests on no slight foundation, but it is the natural result of the development of a marked literary ability which has made it possible for him to express in words what he sees and feels.— F. M. C.

ELEMENTARY ZOOLOGY. By VERNON KELLOGG, Professor of Entomology, Leland Stanford Junior University. New York. Henry Holt & Co. 1901. 12mo. Pages xv + 492; numerous illustrations.

In the forty-six pages devoted to birds in this book much of interest will be found in regard to methods of study, structure and

general habits, together with a brief review of the Orders of Birds.

Part III of the work, "Animal Ecology," treats of animals in relation to their environment and may be read with profit by all students of birds in nature.—F. M. C.

The Ornithological Magazines

THE CONDOR.—The closing number of the third volume of 'The Condor' is devoted chiefly to articles on geographic distribution. The most important paper is Barlow's 'List of the Land Birds of the Placerville-Lake Tahoe Stage Road.' This paper, occupying thirty-four pages and illustrated by five plates and six figures, contains notes on 130 species of summer birds of the central Sierra Nevada. It is based on observations made during six different trips and is supplemented by the field notes of W. W. Price, who has visited the same region regularly for the past nine years. The list proper is prefaced by a description of the country, an account of the life zones, and a brief review of recent work in the region. It is a distinct contribution to the literature of California ornithology, and one which makers of local lists might well take as a model.

Notes of a different character but always of interest are those recording the occurrence of birds in new or unusual localities. Among the more important 'records' in this number are Thompson's notes on the Pacific Kittiwake near Pass Robles, and the Snowy Owl in Santa Cruz county; Belding's capture of the Saw-whet Owl at Lake Tahoe; Swarth's record of the Magnolia Warbler at Los Angeles; and Emerson's notes on the Black and White Creeper in Monterey county, Calif., and the Redstart in the John Day valley, Oregon. Grinnell separates the Least Vireo of southern California as a distinct subspecies (*Vireo pusillus albatus*) and briefly reviews the distribution of the Cedar Waxwing on the Pacific coast. The latter bird he considers 'a migratory species breeding in the Humid Transition zone of British Columbia, Washington and Oregon, wintering in the Upper and Lower Sonoran zones of Southern and Lower California.'

The illustrations are more numerous than usual, among them being two striking half-tones of Gulls on the wing reproduced from 'Camera Craft.' In this connection may be mentioned the announcement that the plans for the next volume contemplate improved illustrations and a new cover. It should be a matter of satisfaction to the members of the Cooper Club and also to readers of 'The Condor' to learn that the journal is now self-sustaining and its permanence assured.—T. S. P.

THE OSPREY.—The three (August, September, and October) numbers of 'The Osprey' which have appeared since our last notice contain much of interest. Dr. Gill's continued article on 'William Swainson and His Times' has reached the eleventh part, but that on the Fishhawks was concluded in the September issue. William Palmer, in 'Some Birds of Kissimmee Valley, Florida,' gives quite full and interesting annotations on many of the species, and in adopting Maynard's name of *purpurea* reopens the question of the subspecific name of the Ground Dove. The paper by F. Finn, of the Indian Museum, beginning in the August and ending in the October number, gives us a very clear idea of how extensively birds are used as pets in Calcutta. Paul Bartsch concludes his article on 'Camping on Old Camp Grounds,' M. S. Ray gives a paper on 'Birds About Lake Tahoe,' A. J. Prill, one, 'A Visit to Otter Rock, Pacific Ocean,' and John W. Daniels, Jr., two, on the 'Prairie Warbler' and 'Blue Grosbeak.'

We have heard, semi-officially, that many improvements will enter into the coming volume. Besides having better paper and new ten-point type, each number will contain twenty-four full line pages, and the reproduction of illustrations will be in charge of an experienced plate printer, so as to insure the best possible results. It is understood that the next volume will commence a new series. We fail to see the desirability of breaking up publications into series, for it makes quotation more complicated, reference-hunting more tedious and the care of individual volumes more difficult, without offering any corresponding advantages.—A. K. F.

Bird-Lore

A Bi-monthly Magazine

Devoted to the Study and Protection of Birds

OFFICIAL ORGAN OF THE AUDUBON SOCIETIES

Edited by FRANK M. CHAPMAN

Published by THE MACMILLAN COMPANY

Vol. IV Published February 8, 1902 No. 1

SUBSCRIPTION RATES

Price in the United States, Canada, and Mexico twenty cents a number, one dollar a year, postage paid.

Subscriptions may be sent to the Publishers, at Harrisburg, Pennsylvania, or 66 Fifth avenue, New York City.

Price in all countries in the International Postal Union, twenty-five cents a number, one dollar and a quarter a year, postage paid. Foreign agents, MACMILLAN AND COMPANY, LTD., London.

COPYRIGHTED, 1902, BY FRANK M. CHAPMAN

Bird-Lore's Motto:

A Bird in the Bush is Worth Two in the Hand.

FOR the first time in its history—and BIRD-LORE is now entering on its fourth year—this magazine is not issued on the day set for publication. The Editor offers his apologies for the delay which was caused by circumstances beyond his control.

ON the opening page of the initial volume of his great work on American birds, reviewed in this number of BIRD-LORE, Mr. Ridgway makes what, from a broad, biologic point of view, we believe to be an unfortunate distinction between what he terms "*systematic or scientific and popular ornithology.*" He says: "There are two essentially different kinds of ornithology: *systematic or scientific, and popular.* The former deals with the structure and classification of birds, their synonymies and technical descriptions. The latter treats of their habits, songs, nesting, and other facts pertaining to their life-histories." This is equivalent to a statement that only systematic ornithology is scientific ornithology, while most modern biologists would, we think, agree that the systematic study of a group of animals, its classification, is only the first step in its study, to be followed by an even more scientific investigation of the living creature, in which the relation of function to structure, the economy of habits,

in short, the philosophy of physical and mental growth, are to be considered.

The ornithologist who does not regard as contributions to scientific ornithology certain of the researches of Darwin, Wallace, Romanes or Lloyd Morgan, for example, is far from appreciating the possibilities of his chosen subject. A bird is a marvelously eloquent exponent of the workings of natural laws, and to claim that the study of the living specimen is not as scientific and important as the study of the dead one, is to deny that it is not as scientific and important to ascertain cause as to observe effect.

In publishing a series of papers on the organization and methods of work of local bird clubs in America the Editor has in mind, primarily, the encouragement of the formation elsewhere of similar societies, which will arouse and develop an interest in the study of local bird-life. The first paper in the series appears in this issue of BIRD-LORE and, wholly aside from its historical value, it contains, we think, many suggestions worthy the attention of allied organizations, chief among them being Mr. Allen's description of the informality of the Nuttall's Club meetings. We have observed that the most enjoyable part of the meetings of natural history societies is before and after the meeting. With the Nuttall Club it is all before and after, the evening being devoted to discussion unmarred by the chilling interposition of forms and usages better fitting debating societies than bird clubs.

FROM many readers of BIRD-LORE we have received, during the past two months, very highly appreciated expressions of satisfaction with the character of this magazine and, in reply, we can only repeat that there is "absolutely no limit to our ambition to add to BIRD-LORE's value and attractiveness." For the present, however, ambition is restrained by the practical question of space, and space by the even more practical question of circulation. The situation, we think, can be improved if our readers would send on a postal addressed to BIRD-LORE, Box 655, Harrisburg, Pa., names and addresses of persons they believe would desire to see a sample copy of BIRD-LORE.

The Audubon Societies

*"You cannot with a scalpel find the poet's soul,
Nor yet the wild bird's song."*

Edited by MRS. MABEL OSGOOD WRIGHT (President of the Audubon Society of the State of Connecticut), Fairfield, Conn., to whom all communications relating to the work of the Audubon and other Bird Protective Societies should be addressed. Reports, etc., designed for this department should be sent at least one month prior to the date of publication.

DIRECTORY OF STATE AUDUBON SOCIETIES

With names and addresses of their Secretaries

New Hampshire.....	MRS. F. W. BATCHELDER, Manchester.
Vermont.....	MRS. FLETCHER K. BARROWS, Brattleboro.
Massachusetts.....	MISS HARRIET E. RICHARDS, care Boston Society of Natural History, Boston.
Rhode Island.....	MRS. H. T. GRANT, JR., 187 Bowen street, Providence.
Connecticut.....	MRS. WILLIAM BROWN GLOVER, Fairfield.
New York.....	MISS EMMA H. LOCKWOOD, 243 West Seventy-fifth street, New York City.
New Jersey.....	MISS JULIA SCRIBNER, 510 E. Front street, Plainfield, N. J.
Pennsylvania.....	MRS. EDWARD ROBINS, 114 South Twenty-first street, Philadelphia.
Delaware.....	MRS. WM. S. HILLES, Delamore Place, Wilmington.
Maryland.....	MISS ANNE WESTON WHITNEY, 715 St. Paul street, Baltimore.
District of Columbia.....	MRS. JOHN DEWHURST PATTEN, 3033 P street, Washington.
Virginia.....	MRS. FREDERICK E. TOWN, Glencarlyn.
South Carolina.....	MISS S. A. SMYTH, Legare street, Charleston.
Florida.....	MRS. I. VANDERPOOL, Maitland.
Missouri.....	AUGUST REESE, 2516 North Fourteenth street, St. Louis.
Ohio.....	MRS. D. Z. MCCLELLAND, 5265 Eastern ave., Cincinnati.
Indiana.....	W. W. WOOLEN, Indianapolis.
Illinois.....	MISS MARY DRUMMOND, 208 West street, Wheaton.
Iowa.....	MRS. L. E. FELT, Keokuk.
Wisconsin.....	MRS. REUBEN G. THWAITES, 260 Langdon street, Madison.
Minnesota.....	MISS SARAH L. PUTNAM, 125 Inglehart street, St. Paul.
Wyoming.....	MRS. N. R. DAVIS, Cheyenne.
Kentucky.....	INGRAM CROCKETT, Henderson.
Tennessee.....	MRS. C. C. CONNER, Ripley.
California.....	MRS. GEORGE S. GAY, Redlands.

A Midwinter Meditation

Within the past dozen years the position of the song bird in the community has undergone a radical change, from being a target for any and every gun, a prisoner for anyone who would cage it, empaed on skewers for pan and hat alike, its eggs the acknowledged perquisite of every biped who chose to collect, it is today accorded a place as a citizen of the commonwealth and laws are being continually enacted that, if carried out, would afford all the protection possible in a country whose material growth is continually absorbing open common, woodland and river front.

With the change of sentiment has come a like change in the methods of bird-study. The work of the analytic ornithologist is justly respected as of old, but the trend is toward the study of the living bird, the

camera supplanting the gun; but just how far this is effective remains to be proved. One would think that this change should rob investigation of well-nigh all its dangers at least as far as concerns the bird, but I am convinced it is oftentimes quite the reverse.

The miscellaneous collecting of eggs and the skins of song-birds in their attractive nesting plumage should of course be prohibited, but not more vehemently than certain methods of gunless bird-study—I refer to the harrying of nesting birds in order to watch, and photograph perhaps, the various processes of incubation and nutrition; also the careless method of interesting children in watching and even handling nestlings to the point of driving parents to leave the nest without giving a thought to the rights of the birds in the matter.

The conscientious student who builds a

bark-covered retreat, or sets up a vine-draped tent from which to observe and photograph birds, sometimes using ingenious devices by which the perching bird literally takes its own picture, is the only one whose observations of the living bird are of serious value, the patient waiter who, having located a nest, or even suspected its location, goes quietly, sits down and waits. Do you remember what that quaint individuality who wrote under the name of "Nessmuck" said about waiting? "There is an art little known and practiced, that invariably succeeds in outflanking wild animals: an art simple in conception and execution, but requiring patience: a species, so to speak, of high art in forestry—the art of sitting on a log." Now, many bird students do not care to sit on logs and wait; their time is limited and they wish to produce certain results with little trouble. Instead of going to the nest, they remove nest, young birds and all, to a place of visual or photographic vantage, trusting to the parental love to follow and tend the young or to hover in an agony of fear until the nest is returned; anything, in short, so that they do not *intentionally* kill the birds; if they die from exposure, long fasting, etc.,—well, it's a pity, but—accidents will happen, you know.

A few years ago a writer in "Recreation" expressed a doubt about the general study of the living bird by the masses, saying (I cannot quote literally) that "if the birds could speak they would say, 'Love us and leave us alone.'" At the time it seemed rather sweeping, but a few years' experience proves it true as far as the nesting season goes. The intimate study of the home-life and habits of wild birds should be done by the individual the same as the study of its anatomy, and not attempted by the mob.

The promiscuous field bird class should be for the identification of the adult bird alone, not the ferreting out of nests. I once inadvertently drove a pair of rare warblers from my own woods. Through thoughtlessness I took two bird lovers to see the nest on the same day, which bred distrust in the parent birds, though they were perfectly accustomed to me, and they abandoned the

nearly hatched eggs. What damage can be done to a park or grove, as a breeding haunt, if a dozen or twenty people are "personally conducted" to examine its various nests and literally addle the unhatched eggs by misplaced enthusiasm!

It is the solitary student capable of sitting on the log, who sees the things and makes the discoveries. Among our women students Mrs. Olive Thorne Miller was, I think, the first to practice this theory. There is little of value to be learned by what a recent nature story calls "A Cook's Tour in Birdland," the leader of which goes to any length to show a given amount for given pay, irrespective of damage to the birds, or to obtain a marketable photograph at any cost, or an exhibition in a minor degree of the same spirit of commercialism that deprives birds of their plumage to supply the millinery market.

In short, as the wild slowly but surely is becoming subject to the civilized, extreme conservatism must prevail in all branches of nature study if we expect to still have nature to study. Also, the economic effect is the same whether a collector robs a nest, careless observers cause it to be abandoned, or the young die from an overdose of photography.

A story of the study of a living bird is going the rounds of the papers. It concerns experiments recently made at Antwerp regarding the swiftness of a Swallow's flight.

The bird was nesting in the gable of the railway station, and it was sent to a point 140 odd miles away. On being liberated the bird flew back to its nest in one hour and eight minutes, or at the rate of 128 miles per hour. What does this teach,—can that flight under the spur of parental anguish be considered typical?

Once upon a time there was a little boy, a very bright, inquiring lad, who, if he often got into mischief, probably did it because, with boys, mischief and brightness are fitted as closely together as the rind to the orange. This boy joined the Audubon Society, put his popgun away in the garret, and resolved in future only to add spoiled eggs to his cabinet.

He listened to a lecture about the obser-

vation and study of the living bird, and one June day set forth to "observe." He knew the village street well and where the nests of half a dozen birds were located, Robins, Wrens, Song Sparrows, Catbirds, Yellow Warblers, Chippies, and the like. There were young birds in almost every nest; of these he made a collection, one from each, and with the aid of a ladder forced the birds to exchange children — result, pandemonium and a feathered riot.

The boy merely said that he wished to see what the birds would do, and he saw that for dire results he might almost as well have stolen the unhatched eggs. A more mature student would have probably written a paper on "Race Antipathy in the Nesting Season: a Study of the Living Bird."

M. O. W.

Reports of Societies

FIFTH ANNUAL REPORT OF THE PENNSYLVANIA AUDUBON SOCIETY

During the past year the Pennsylvania Audubon Society has conducted its work on practically the same lines as heretofore, with very encouraging success, while the results obtained through the efforts of the American Ornithologists' Union, U. S. Department of Agriculture, and other bodies in the interests of bird protection in America have been of such importance that an outline of them is here given in order that our members may keep in touch with this work.

Through the money subscribed to the "Thayer Fund," wardens have again been employed to guard the breeding Terns and Gulls from Maine to Chesapeake Bay and millinery collectors have been effectually kept from disturbing them. Mr. Baily, of the Pennsylvania Society, has superintended this work in New Jersey. In addition to this, more stringent laws have been passed in many of the states in the interests of the birds.

The nature and provisions of the Lacey Act having been carefully explained to the leading wholesale milliners of the eastern cities, they have almost universally ceased to deal in any native American birds. The apparent increase in the use of birds during

the present season is due largely to the selling off of old retail stock and to the trade in foreign birds.

Investigation by officers of the Pennsylvania Audubon Society shows that most of the quills and fancy tufts of feathers now so largely used in millinery are made from the plumage of foreign wild birds, notably Indian species. The laws of this country do not apply to imported birds, and this trade can only be discouraged by the refusal of members of the Audubon Societies to use *any* feathers for decoration except ostrich plumes and feathers obviously from domestic fowls, such as long black chicken feathers, turkey quills, etc.

The attention of our members is particularly called to this matter, as so many of the alleged quills and feathers of domestic fowls are really from wild birds. In order to stimulate the use of birdless millinery an arrangement has been made with Mr. George Allen, 1214 Chestnut Street, Philadelphia, by which he will devote one case in his store entirely to "Audubon hats."

On January 5, 1901, the annual meeting of the Pennsylvania Audubon Society was held in the lecture hall of the Academy of Natural Sciences. Mr. Stone presided and made the opening address, being followed by Mr. George Spencer Morris and Mr. William L. Baily, who spoke respectively on "Winter Birds" and "Bird Study with the Camera." As usual the hall was crowded and great interest was shown in the meeting.

During the year the membership has increased to 6,700, and requests for circulars and information have been received from many parts of the state not hitherto represented in the Society.

In all, some 8,000 circulars and pamphlets have been distributed, many of which have been placed in village stores, schools and reading-rooms. The number of local secretaries has increased in a most encouraging manner, and we now have representatives in sixty-seven towns, villages, etc., through the state.

During the year a Committee on Traveling Nature-Study Libraries was appointed under the management of Miss Hilda Justice. In response to a circular issued in June,

enough money was received to purchase ten libraries of ten books each mainly devoted to birds. These are now in circulation among the public schools of Pennsylvania, but more than twice the number of books could be used without satisfying the demand, so popular have the libraries become. Each library may be kept three months and the only expense to the school is the freight on the books, an average sum of about 35 cents. The object of the libraries is to interest the children in birds and bird-protection and to arouse a love for all nature study.

The organization in Philadelphia of the Spencer F. Baird Ornithological Club by a number of ladies, is directly due to the influence of the Audubon Society and is an example that can well be followed in other cities and towns to stimulate bird study.

Beginning with 1902 the Society is forced to establish a new class of membership to be known as Sustaining Members, to which we call particular attention. It will include at the outset all those who have aided the Society by contributing to its funds, or by acting as local secretaries, and to these the reports and circulars of the Society will be sent as heretofore. All other members who desire to receive the reports, notices of meetings, etc., may do so by contributing a sum of not less than one dollar to the Society. This is not an annual assessment but simply one payment. We trust that a large number of our members will enroll themselves in this class and so materially aid in the work of the Society. The Society is forced to this action by the increased cost of postage incident to a constantly growing membership.

The annual meeting of the Society was held January 11, 1902, at 3 P. M. in the Lecture Hall of the Academy of Natural Sciences, Nineteenth street below Race.

On Monday evenings, January 6 to February 3, at 8 P. M. a course of free lectures will be delivered in the same hall by Mr. Witmer Stone, Conservator of the Ornithological Section of the Academy, on "Structure and Life Histories of some Common Birds."

To these you and your friends are cordially invited.

In closing, we would again call attention to the fact that our work is limited strictly by the amount of funds at our disposal, and we hope our members will aid us as far as possible in this manner. The purchase of more traveling libraries, the delivery of lectures in more remote parts of the state and the publication of additional literature are especially desired but can only be accomplished by increased funds.

All contributions should be sent to William L. Baily, treasurer, 421 Chestnut St., Philadelphia, or to

JULIA STOCKTON ROBINS, *Secretary*.

MRS. EDW. ROBINS,

114 S. 21st St., Philadelphia.

An Addition to the White List

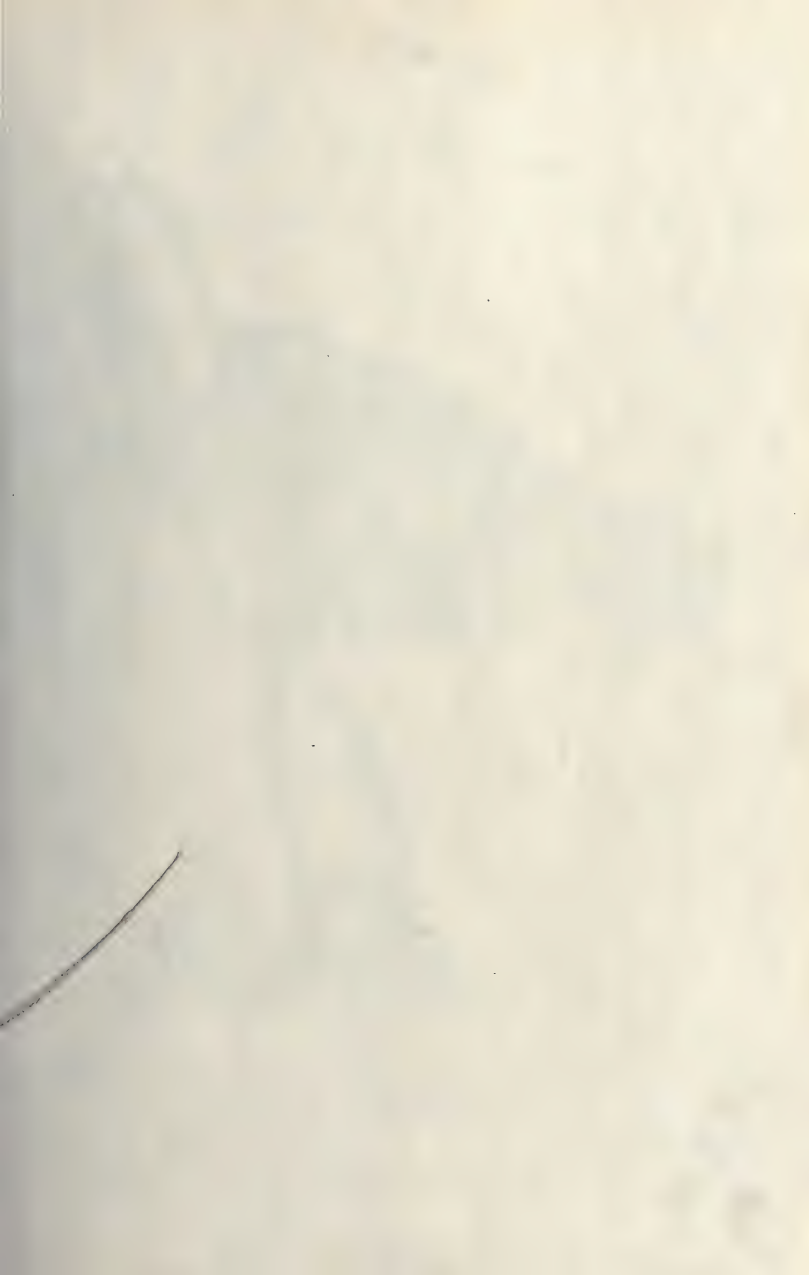
Miss J. E. Hamand, secretary of the Audubon Society of Shaller, Iowa, sends the name of Mrs. Mary Smith Hayward, of Chaldron, Nebraska, for the Milliner's White List: not only for many years was she the only milliner in the United States who never sold birds, wings or aigrettes, but she has distributed leaflets showing the evil of the decorative uses of feathers among her customers and offered prizes in the local schools for essays upon bird protection.

The Thayer Fund

'The Auk' for January, 1902, contains Mr. William Dutcher's annual report on the 'Results of Special Protection to Gulls and Terns Obtained Through the Thayer Fund.' This report fills twenty pages of 'The Auk,' and is far too interesting and important to be adequately treated in the space at our command. Copies may be obtained of Mr. Dutcher for four cents if application is made before the limited supply is exhausted.

The expenditures of the committee for the year were slightly more than \$1,800, and the surprising results achieved with this comparatively small sum constitute an eloquent argument for the committee in its appeal for funds to continue and extend its operations.

Contributions may be sent to William Dutcher, Treasurer, 525 Manhattan avenue, New York city.





FLORIDA GALLINULE. (See page 51)
One-half natural size.

Bird = Lore

A BI-MONTHLY MAGAZINE
DEVOTED TO THE STUDY AND PROTECTION OF BIRDS

OFFICIAL ORGAN OF THE AUDUBON SOCIETIES

Vol. IV

MARCH — APRIL, 1902

No. 2

Voices of a New England Marsh

BY WILLIAM BREWSTER

With illustrations from mounted specimens in the American Museum of Natural History

TO most people a fresh water marsh has little to offer in the way of beauty or attractiveness. Indeed it is quite generally regarded as so much waste land; unsightly from its primitive condition; unprofitable because of the difficulty of harvesting its coarse and unnutritious grasses; even prejudicial to the comfort and health of those who dwell near it by reason of the swarms of venomous mosquitoes and noisy frogs which it harbors and the noxious, malarial vapors which it is popularly supposed to generate.

Such at least appears to be the consensus of opinion respecting the Fresh Pond marshes at Cambridge, although from the time of Nuttall and the Cabots to the present day they have been to a small, but steadily increasing number of nature lovers and sportsmen, an inexhaustible source of interest and enjoyment. During this period they have suffered many and grievous changes, but there yet remains an 'unimproved' area sufficiently large and primitive to attract and shelter innumerable muskrats, a few minks and, at the proper seasons, many species of wading and water birds. The voices of these and other marsh-frequenting creatures have always had for me an absorbing interest — due largely, no doubt, to the extreme difficulty of disentangling and identifying them; as the editor of BIRD-LORE encourages me to think that they may also interest some of its readers I have attempted, in the present paper, to describe the sounds with which I am more or less familiar, at the same time briefly sketching some of the more characteristic habits of their authors and touching still more lightly on the aspects which their favorite haunts wear at the different seasons.

Through the long New England winter the Fresh Pond marshes are encased in glittering ice or buried deep under a mantle of wind-sculptured snow. Flocks of Snow Buntings occasionally circle over them; Shrikes and Hawks of several kinds perch on the isolated trees to watch for prey;

a few Red-winged Blackbirds and Meadowlarks come in at sunset to spend the night; Tree Sparrows frequent the alder thickets; and the extensive beds of cat-tail flags, bent down and matted together by the snow, afford shelter for numerous Song and Swamp Sparrows as well as for one or two Long-billed Marsh Wrens. On mild, calm mornings the Sparrows may be heard chirping to one another from the different covers and late in February the Song Sparrows sing a little in subdued, broken tones, but during most of the period when winter holds full sway the marshes are as silent as they are desolate.

The awakening comes in March when the deeper pools and channels begin to show open water and the snow and ice everywhere are rapidly wasting under the ever increasing strength of the sun's rays. The Song Sparrows, Tree Sparrows, Red-winged Blackbirds and Rusty Blackbirds that have passed the winter further south arrive in force at this time, and at morning and evening, before the blustering northwest wind has risen and after it has lulled for the night, they fill the marsh with their voices. The Red-wings are scattered about, perched conspicuously on the topmost twigs of isolated shrubs or low trees, their sable forms sharply outlined against the light background of water, snow or sky, each bird flashing his scarlet epaulets in the sunlight for an instant, just as he swells his plumage and half opens his wings to utter his rich, guttural *ô-ka-lée*. The Rusties pass and repass over the open in loose flocks, with undulating flight, or alight in the upper branches of the trees to indulge in one of their rather infrequent outbursts of tinkling medley-singing before descending to feed on the margin of some shallow pool fringed with button bushes or overhung by willows. The Song Sparrows, although less noticeable than the Blackbirds, by reason of their soberer garb and more retiring habits, are also constantly in sight, flitting from bush to bush or perching on some exposed twig to chant their sweet, earnest songs; but the wild, ringing, rapidly delivered notes of the Tree Sparrows issue, as a rule, from the depths of the thickets where the birds keep closely concealed. These voices, with, perhaps, the tender, plaintive warble of some passing Bluebird or at evening, towards the close of the month, the merry peeping of Pickering's hylas are the characteristic March sounds of the Fresh Pond marshes as well as of many similar places in eastern Massachusetts. How they soothe and refresh the senses after the long silence of winter, breathing to every one of refined sensibilities the very essence of early spring! To those who have long known and loved them they are inexpressibly grateful and precious, touching the chords of memory more subtly than do any other sounds, recalling past associations—albeit often saddened ones, and filling the heart with renewed courage and hope for the future.

After the 6th or 7th of April the temperature rarely falls below the freezing point and by the 10th or 12th of the month the marshes are usually

free from frost, although for a week or two later they show scarce any trace of green. Indeed at this time they are even more dreary and barren looking than in late autumn, for the deep and varied tones of russet which they wore at that season have since bleached to a uniform faded brown, and the once erect, graceful reeds and grasses, broken by the wind and crushed under the weight of the winter's snows, cover the sodden ground and shallow surface water with melancholy wreckage. Nevertheless the marshes are by no means unattractive at this time. It is good to breathe the soft, moist air laden with those indescribable and pleasingly suggestive odors peculiar to the place and season; and if vegetation is somewhat backward there is no lack of conspicuous animal life and sound. The birds now sing more or less freely throughout the day and at morning and evening with the utmost spirit and abandon. Besides the Blackbirds and Song Sparrows there are numbers of Tree Sparrows up to the middle of the month (when most of them depart for their summer homes at the north) and Swamp Sparrows in abundance after the close of the first week. From this time until midsummer the song of the Swamp Sparrow is one of the most frequent and characteristic of the voices of the marsh. It is a rapid, resonant trill suggestive of that of the Chippy but much more spirited and musical.

As soon as the frost is well out of the meadows the Wilson's Snipe arrive. During the daytime they remain silent and closely hidden among the grass, but just as twilight is falling one may hear the hoarse, rasping flight-call, *scaipe, scaipe, scaipe*, repeated by several birds rising in quick succession from different parts of the marsh. Some of them alight again after flying a few hundred yards, but if the evening be calm and mild one or two of the males, filled with the ardor of the approaching love season, will be likely to mount high into the air and begin flying in great circles every now and then pitching earthward, sometimes abruptly and almost vertically, again scarce perceptibly, at each descent making a tremulous humming sound not unlike the winnowing of a domestic Pigeon's wings but louder or at least more penetrating for it is audible, under favorable conditions, at a *distance of nearly a mile*. It has at all times a strangely thrilling effect on the listener and when heard directly overhead and without previous warning of the bird's presence it is positively startling in its weird intensity. It is supposed to be produced by the air rushing through the Snipe's wings during his swift descent.

In the springtime Snipe produce another peculiar sound, a low, rolling *kuk-kuk-kuk-kuk-kuk*, evidently vocal and usually given while the bird is standing on the ground although sometimes accompanying a slow, labored and perfectly direct flight at the end of which he alights on a tree or fence post for a few moments. This, as well as the aerial circling and plunging, may be sometimes witnessed in broad daylight when the weather is stormy,

but both performances are ordinarily reserved for the morning and evening twilight or for nights when there is a nearly full moon.

Unlike the Snipe, which pass further north to breed, the Bittern is a summer resident of our marshes. He sometimes arrives in March, but his presence is likely to be overlooked until about the middle of April, when he begins to make it evident to the duller ears by his stentorian voice—louder and, perhaps, also more remarkable than that of any other wild creature found in eastern Massachusetts. Standing in an open part of the meadow, usually half concealed by the surrounding grasses, he first makes a succession of low clicking or gulping sounds accompanied by quick opening and shutting of the bill and then, with abrupt contortions of the head and neck unpleasantly suggestive of those of a person afflicted by nausea, belches forth in deep, guttural tones, and with tremendous emphasis, a *pump-er-lunk* repeated from two or three to six or seven times in quick succession and suggesting the sound of an old-fashioned wooden pump. All three syllables may be usually heard up to a distance of about 400 yards, beyond which the middle one is lost and the remaining two sound like the words *pump-up* or *plum-pudd'n* while at distances greater than half a mile the terminal syllable alone is audible, and closely resembles the sound produced by an axe stroke on the head of a wooden stake, giving the bird its familiar appellation of "Stake Driver."

At the height of the breeding season the Bittern indulges in this extraordinary performance at all hours of the day, especially when the weather is cloudy, and he may be also heard occasionally in the middle of the darkest nights, but his favorite times for exercising his ponderous voice are just before sunrise and immediately after sunset. Besides the snapping or gulping and the pumping notes the Bittern also utters, usually while flying, a nasal *haink* and a croaking *ok-ok-ok-ok*.

Belonging to the same family as the Bittern but differing widely from it—as well as from each other—in voice and habits, are the Night Heron and the Green Heron. The former species was once very common in the Fresh Pond marshes but is fast deserting them. A few birds remain with us through the winter but the majority arrive early in April and depart before November. As its name implies the Night Heron is inactive by day but in the evening twilight, as well as throughout the darkest nights, we hear over the marshes the deep, hoarse *quawk* which it gives every half minute or so while flying. Besides this call it makes at times a variety of loud, raucous sounds, some of which have been compared to the cries of a person suffering strangulation. The Green Heron rarely appears in our latitude before the 20th of April. It is still a common summer resident of the Fresh Pond marshes and being diurnal in its habits and by no means shy it is oftener seen there than either of the other Herons just mentioned. In addition to the abrupt and rather startling *scow* which is its ordinary call,

especially when on the wing, it sometimes utters a rattling *oc-oc-oc-oc-oc* and more rarely a deep, hollow groan very impressive when heard, as is often the case, in the depths of some heavily shaded swamp.

About the middle of April we begin to hear in our marshes, usually in the early morning, late afternoon or during cloudy weather, and coming



VIRGINIA RAIL. (One-half natural size)

from some briary thicket or bed of matted reeds, a guttural *cut, cut, cutta-cutta-cutta* repeated at brief intervals, often for hours in succession. This is occasionally interrupted or closely followed by a rapid succession of low yet penetrating grunts not unlike those of a hungry pig. The Virginia Rail is the author of both these sounds, the former appearing to be peculiar to the male and, no doubt, his love song. When heard very near at hand it has a peculiar vibrant quality and seems to issue from the ground directly beneath one's feet. The grunting notes are given by both sexes but, with

rare exceptions, only during the breeding season. The female when anxious about her eggs or young also calls *ki-ki-ki* and sometimes *kiu* like a Flicker.

In the more open, grassy stretches of meadow, as well as among the beds of cat-tail flags but seldom, if ever, in thickets of bushes, we also hear, after the middle of April, mingling with the notes of Virginia Rails and the din of countless frogs, the love song of the Carolina Rail, a sweet, plaintive *èr-e* given with a rising inflection and suggesting one of the 'scatter calls' of the Quail. Such, at least, is its general effect at distances of from fifty to two or three hundred yards, but very near at hand it develops a somewhat harsh or strident quality and sounds more like *kà-e*, while at the extreme limits of ear range one of the syllables is lost and the other might be easily mistaken for the peep of a Pickering's hyla. This note, repeated at short, regular intervals, many times in succession, is one of the most frequent as well as pleasing voices of the marsh in the early morning and just after sunset. It is also given intermittently at all hours of the day, especially in cloudy weather, while it is often continued, practically without cessation, through the entire night.

Equally characteristic of this season and even more attractive in quality is what has been termed the 'whinny' of the Carolina Rail. It consists of a dozen or fifteen short whistles as sweet and clear in tone as a silver bell. The first eight or ten are uttered very rapidly in an evenly descending scale, the remaining ones more deliberately and in a uniform key. The whole series is often followed by a varying number of harsher, more drawling notes given at rather wide intervals. Although it is probable that the 'whinny' is made by both sexes I have actually traced it only to the female. She uses it, apparently, chiefly as a call to her mate, but I have also repeatedly heard her give it just after I had left the immediate neighborhood of her nest, seemingly as an expression of triumph or rejoicing at the discovery that her eggs had not been molested. When especially anxious for their safety and circling close about the human intruder she often utters a low whining murmur closely resembling that which the Muskrat makes while pursuing his mate and sometimes a *cut-cut-cutta* not unlike the song of the Virginia Rail, but decidedly less loud and vibrant. In addition to all these notes both sexes have a variety of short, sharp cries which they give when startled by any sudden noise.

Although the hylas and leopard frogs may be occasionally heard before the close of March as well as frequently after the 1st of May they are invariably most numerous—or rather vociferous—in April. The notes of Pickering's hyla are pitched very high in the scale, but they are clear and crisp rather than shrill, and the *peep, peep, pee-e-eeep* of six or eight individuals, coming at evening from different parts of the marsh, is one of the most pleasing and suggestive of all spring voices; when two or

three hundred are calling at once, however, the din is rather overpowering and at times also annoying, for it more or less completely drowns all other sounds.

The notes of the leopard frog have been not inaptly compared to the sound of snoring. In early April they are heard oftenest during the



SORA (One-half natural size)

warmer hours of the day, but after the middle of the month these frogs snore chiefly—as seems, indeed, appropriate—by night. When the weather is calm and the voices of hundreds of individuals are coming from far and near, they fill the air with sound that never ceases for an instant, although ever fluctuating in volume like the rote of distant surf.

The pickerel frog is also very common in our meadows. Mr. Sidney F. Denton tells me that it begins croaking rather later in the season than the leopard frog and that its notes resemble those of that species,

but are nevertheless distinguishable. I have never succeeded in identifying them, but I suspect that they are the sounds which we hear so frequently in the marshes toward the close of April and early in May, and which, although generally similar to those made by the leopard frog, are more disconnected and of a sharper, harder quality, suggesting the slow grating of some gigantic creature's teeth.

Comparatively few of the people who consider themselves familiar with our common garden toad are aware that it is the author of the shrill, prolonged, and not unpleasant trilling sounds which, mingled with the peeping of the hylas and the "snoring" of the leopard frogs, may be heard in April in almost any marsh or shallow pool. This trill is the love song of the male and is peculiar to the mating season, which both sexes spend together in the water. After the eggs are laid the male, at least, continues to frequent the shores of ponds and rivers where, through the latter part of May and most of June, it utters, chiefly by night and at short, regular intervals, an exceedingly loud and discordant *quar-ar-r-r-r*.

Still another batrachian voice which may be heard about the end of April, once or twice in a lifetime, if one is *very* fortunate, is that of the spade-footed toad. This singular creature is said to live at a depth of several feet under ground and to leave its subterranean retreat not oftener than once in every seven years and then but for a single day and night, during which its noisy amours are accomplished and the eggs laid. I have twice found it thus engaged, on both occasions in a hollow filled with stagnant water near my home in Cambridge and not far from the Fresh Pond marshes. Although the second and last experience happened over thirty years ago I can still remember with perfect distinctness the tremendous din which the spade-foots made about this little pond during an entire day and the whole of the following night. Their notes, as I recall them, were all croaking and outrageously loud and raucous, but they varied somewhat in pitch, although all were rather low in the scale.

By the beginning of May the marshes have almost wholly lost their bleached, watery aspect and are everywhere verdant with sprouting rushes and rapidly-growing grass. A week or two later they are perhaps more attractive than at any other period of the year. The grass is now six or eight inches high and the bushes and isolated trees are covered with unfolding leaves or pendulous catkins of the most delicate shades of tender green, golden yellow and pink or salmon, while scattered shad bushes, crowded with creamy white blossoms, stand out in bold relief about the edges of the thickets. Yellow Warblers are singing in the willows, and the *witchery-witchery-witchery* of the Maryland Yellow-throat comes from every briar patch or bed of matted, last year's grass. A few Long-billed Marsh Wrens have also arrived and are performing

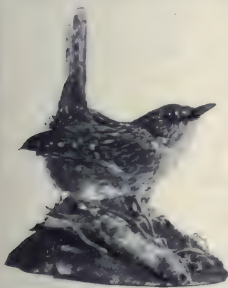
their curious antics and uttering their guttural, gurgling songs among the cat-tail flags where, a little later, numbers of their interesting globular nests and chocolate brown eggs may be found by any one provided with a good pair of wading boots. The Short-billed Marsh Wrens no longer inhabit the Fresh Pond marshes, although they were common enough there twenty-five years ago, breeding in an extensive tract of rank but fine grass which, like the birds themselves, has since disappeared. They sing later into the summer than the Long-bills, and their notes, which are radically different, may be roughly imitated by the syllables *chip, chip, shee-shee-shee*, the first two given distinctly and emphatically, the remaining three rapidly and in a low, somewhat hissing tone.

About the middle of May, or a few days earlier in forward seasons, the Florida Gallinules arrive (see frontispiece). Like the Rails they are given to skulking among the grass or flags but at morning and evening we occasionally see them swimming across pools or ditches, their brilliant scarlet bills and frontal shields flashing in the level beams of the rising or declining sun. They are noisy birds at this season and some of their cries are second only to those of the Bittern in strength and grotesqueness. One of their commonest vocal performances is a loud and prolonged outcry

consisting of a succession of hen-like *cucks*, given rather slowly and at nearly regular intervals, and frequently ending with a harsh, drawling *ké-ar-r, kré-ar-r*. They have other calls so numerous, complex and variable that it is difficult to describe them briefly and at the same time adequately. Sometimes they give four or five loud, harsh screams very like those of a hen in the clutches of a Hawk, but uttered more slowly and at wider intervals; sometimes a series of sounds closely resembling those made by a brooding hen when disturbed, but louder and sharper, succeeded by a number of lower, more querulous cries intermingled with subdued clucking; occasionally something which sounds like *kr-r-r-r-r, kruc-kruc, krar-r; kb-kb-kb-kb-kea-kea*, delivered rapidly and falling in pitch towards the



LONG-BILLED MARSH WREN
(One-half natural size)



SHORT-BILLED MARSH WREN
(One-half natural size)

end. Shorter and more frequent utterances are a low *kloc-kloc* or *kloc-kloc-kloc* and a single explosive *kup* very like the ejaculation of a startled frog. Nearly all these cries are loud and discordant and most of them are curiously hen-like.

Quite as retiring by nature as the Rails and Gallinules and even less conspicuous, by reason of its habitual silence, the Least Bittern, most diminutive of our Herons, passes almost unnoticed save by the ornithologists, although it is a not uncommon summer resident of the Fresh Pond marshes, arriving about the middle of May and departing late in August. It is one of the most feeble, listless and timid-seeming of all birds and its habits are in perfect keeping with its appearance, for, excepting when flushed from the beds of cat-tail flags where it apparently spends its entire time, and where its frail nest is suspended a foot or more above the water, it is seldom seen on wing even at nightfall when so many other faint-hearted creatures move about with more or less freedom and confidence. Nor do we often hear its voice save during a brief period at the height of the breeding season when the male, concealed among the rank vegetation of his secure retreats, utters a succession of low, cooing sounds varying somewhat in number as well as in form with different birds or even with the same individual at different times. The commoner variations are as follows: *cöö*, *hoo-hoo-höö* (the first and last syllables slightly and about evenly accented), *coo-coo*, *coo-hoo-höö* (with distinct emphasis on the last syllable only), *co-co-co-co*, *co-co-ho-ho* or *co-ho-ho* (all without special emphasis on any particular syllable).

These notes are uttered chiefly in the early morning and late afternoon, usually at rather infrequent intervals but sometimes every four or five seconds for many minutes at a time. When heard at a distance they have a soft, cuckoo-like quality; nearer the bird's voice sounds harder and more like that of the domestic Pigeon, while very close at hand it is almost disagreeably hoarse and raucous as well as hollow and somewhat vibrant in tone. Besides this cooing the Least Bittern occasionally emits, when startled, a loud, cackling *ca-ca-ca-ca*.

The leopard frogs may be heard occasionally, and the hylas not infrequently, early in May, and the bull frog very commonly towards its close, but the batrachian voices most characteristic of this month are the harsh squawk of the garden toad, already described, and the love notes of the tree toad. During the brief period—scarce exceeding a week—which the male of the species last-named spends with the female in the water (where the eggs are laid) before returning to his favorite hollow branch in some old orchard or forest tree, he and his comrades of the same sex fill the marshes in the late afternoon and through the night with the sound of their joyous contralto voices. The rather pleasing, rolling notes which they utter at this time are not essentially different

from those which we occasionally hear in our orchards in summer, especially just before a rain, but they are now given more rapidly and at shorter intervals as well as with much greater spirit.

During the last two weeks of May and the first ten days of June the



LITTLE BLACK RAIL. (One-half natural size)

bird voices of the marshes are at their fullest and best. The Robins and Song Sparrows, it is true, are comparatively silent at this time, but all the other species continue to sing with undiminished fervor, at least during the cooler hours, while several of them may be heard now with greater certainty or to greater advantage than at any other season. The first signs of decadence are usually noted about the middle of June. Before its close the Bitterns, Rails and Gallinules become silent, and the Bobolinks nearly so, while the songs of the Marsh Wrens, Yellow Warblers, Maryland Yellowthroats and Red-wings steadily decline in vigor and frequency.

There is a voice, evidently that of a bird, and almost without question belonging to some kind of Rail, but not as yet definitely identified, which has been heard in the Fresh Pond marshes during one season only; viz., in June, 1889. It has since been noted at one or two other similar localities in Eastern Massachusetts, never earlier than May 18 nor later than June 25. As I have already published* a detailed account of my experience and impressions relating to it, as well as my reasons for believing that it is the

* Auk, xviii, No. 4, Oct., 1901, pp. 321-328.

voice of the Little Black Rail,* it seems unnecessary to give, in this connection, anything more than the briefest description of its notes.

They vary considerably in number, as well as somewhat in form and quality. The commonest forms are as follows:

Kik-kik-kik, quèeah,

Kik-kik-kik, ki-quèeah.

Kik-ki-ki-ki, ki-quèeah.

K'ic-kic, k'ic-kic, k'ic-kic, k'ic-kic, ki-quèeah.

The *kic-kic* notes are similar to those uttered by the Virginia Rail when calling to her young, but much louder. Although usually delivered in rather rapid succession, they are divided by distinct if short intervals into groups of twos or threes, giving them the effect of being uttered with a



YELLOW RAIL. (One-half natural size)

certain degree of hesitancy. The terminal *quèeah* or *ki-quèeah* is shrill and slightly tremulous, reminding one by turns of the rolling chirrup which a chipmunk makes just as he darts into his hole or of the squealing crow of a young rooster. All the notes, although not apparently very loud when

*It has been since attributed, on what appears to me to be inconclusive evidence, to the Yellow Rail. Auk, xix, No. 1, Jan., 1902, pp. 94, 95.

one is near the spot where they are uttered, may be heard, under favorable conditions, at a distance of fully half a mile.

Another equally mysterious bird which we hear occasionally in May or June (but by no means every season) in the Fresh Pond marshes, and which we have some reasons for believing may be the King Rail, utters a grunting *umph, umph, umph, umph*, usually deep and guttural, but sometimes rather harsh and vibrant, and not unlike the quacking of a hoarse-voiced Duck. These notes are all on the same key and separated by rather wide but approximately regular intervals.

About the beginning of July the Robins, Song Sparrows and Swamp Sparrows enter on a second song period which lasts for several weeks. During the latter part of this month and most of August the marshes are enlivened by the presence of great flocks of young Red-wings and Bobolinks, which assemble to feed on the seeds of the wild rice and of various other semi-aquatic sedges or grasses, as well as by swarms of Swallows, most of which have come down from the north. The Red-wings utter now a chattering *cha-cha* cry, the Bobolinks a liquid, resonant *pink*. The latter sound is especially characteristic of this season, as is also the rapid, musical whistle of the Upland Plover which we occasionally hear about sunrise towards the end of August.

Early in summer the bull frogs and green frogs hold high revels in the marshes, especially at night. Every one, of course, is familiar with the deep, heavy bass of the bull frog, although it oftener provokes ridicule than inspires the admiration which its fine sonorous quality really merits. The green frog utters an abrupt, incisive *tung, tung-tung-tung*, the last three notes being lower in the scale than the first and the general effect very like that produced by "strumming" slowly on the strings of a bass viol. Both of these frogs may be heard as early as the latter part of May and as late as September, but they are most vociferous in June and July.

Late in August or early in September the rank, fully-matured vegetation of the marshes begins to show traces of russet, but the prevailing color is still green of various shades blended with delicate tints of lavender and purple. The tall, graceful reeds which fringe the pools and ditches are now alive with Rails and Sparrows of several species. These birds vary greatly in numbers from day to day as the successive flights arrive from the north and pass on still further southward. The Sparrows are conspicuous enough, for they are constantly calling to one another and flying back and forth across the open spaces, but the presence of the Rails is not likely to be discovered, at least during the midday hours, unless they are startled by some sudden sound. If they are at all numerous the report of a gun or the splash of a stone thrown into the shallow water among the reeds will be instantly followed by a chorus of *keks*,

kiks, *ki-kiks*, and various other similarly abrupt, explosive cries, uttered in tones of indignant protest and coming from far and near on every side. Most of these calls are made by young Carolina Rails.

In September and October, and occasionally well into November, we frequently hear, both by day and night, especially when the weather is clear and warm, the autumnal call of Pickering's hyla. It consists of a prolonged series of short, dry or crackling notes, given very deliberately and often haltingly or at irregular intervals, rather feeble or at least not loud, yet audible at a considerable distance, and so very unlike the clear, brisk, spring peeping that no one would suspect that both sounds were uttered by the same creature. The autumnal call, moreover, is heard most frequently in woods or thickets, sometimes on high ground. It often seems to come from the branches of the trees or bushes, but if one is patient and fortunate enough to trace the sound to its little author, he is most likely to be found clinging to some leaf or grass blade only a foot or two above the ground.

In October the prevailing color of the marshes changes to browns and russets of rich and varied shades. Most of the Rails have departed, but there are still plenty of Song and Swamp Sparrows among the reeds and numbers of Savanna Sparrows in the beds of shorter grasses. Where the grass has been cut flocks of Titlarks alight to feed on the exposed, muddy ground, and their feeble, piping calls are heard at frequent intervals. The Rusty Blackbirds have also returned from their summer homes at the north, but they are comparatively silent at this season. At day-break Black Ducks circle low over the marsh, attracting our attention by their loud quacking or perhaps by the light, silvery whistling of their wings—audible at a surprising distance when the air is perfectly still. Towards the close of the month, just as the level beams of the rising sun begin to light up the meadows white with the hoar frost which, during the night, has encrusted every leaf and blade of grass, we hear, faintly but distinctly, coming from high overhead, a tremulous twitter, immediately followed by a single, short, clear whistle. It is the flight call of the Snow Bunting and the first sound of autumn, which unmistakably suggests the near approach of winter.



Bird Clubs in America

II. THE DELAWARE VALLEY CLUB

BY SAMUEL N. RHOADS

IT has been an ever-increasing desire of the founders of the Delaware Valley Ornithological Club to encourage bird study, not only in a scientific, but in a popular sense, both for young and old. It is therefore most gratifying that the editor of BIRD-LORE offers us this opportunity to preach the gospel of song and feathers to so large an audience. Our sermon may well begin with the historic phase of the "D. V. O. C.," as we familiarly name ourselves.

One day in December, 1889, a chance remark about birds in a Philadelphia architect's office caught the ear of a fellow-worker of kindred spirit sketching in the same room. This touch of nature was an all-sufficient introduction and the strangers soon were friends. This was the spark that, kindled in a kindly environment, and glowing into flame, has given zest and enthusiasm to the lives of so many during the past decade. So far as the world of bird lovers was concerned this incident might have resulted, as do most, in nothing more momentous than a bird's-nesting jaunt or a few collecting trips; the result, shells and skins, destined to moth and rust and house-cleaning wrath in the attic den. But between J. Harris Reed* and William L. Baily such an avian fire was burning as called for more fuel, and others soon yielded themselves to the sacred flame. A few checkered postal cards with blank spaces and bird's names did the rest, and order began to resolve out of the ornithic chaos which had enveloped Philadelphia since the death of John Cassin.

On the evening of January 22, 1890, William L. Baily, George S. Morris, J. Harris Reed, Samuel N. Rhoads and Spencer Trotter met at the home of Mr. Baily and decided to organize; this was done and a constitution adopted February 3, of that year. Incidentally Mr. Reed provided cake for the preliminary meeting, but it is significant of the virility of the movement to note that the refreshment feature never after appeared in the regular club meetings and even smoking was prohibited for a few years. At the close of the February meeting the organization had seven members; Witmer Stone and Charles Voelker having meanwhile joined the movement. Baily was chosen president and Rhoads secretary-treasurer. All the founders except Voelker and Stone were members of the Society of Friends.

Baily (architect) was a nephew and namesake of the author of one of the first books intended to popularize the study of "Our Own Birds of the United States." Morris (architect) had ornithological kinship with such

*Reed first proposed organization.



Photographed by H. Parker Rolfe, January, 1898

THE DELAWARE VALLEY ORNITHOLOGICAL CLUB

- [illegible]

patrons of Audubon as Spencer and Harris. Reed (architect) had been both associate and rival of Rhoads in birds-nesting escapades at boarding school in his early teens. Rhoads (farmer) was, at eight years' stepson and scholar of Morris's aunt, to whose love of nature both owe more than to any other cause the bent of mind which was later shaped by intimate association with each other and with Prof. E. D. Cope, who then lived in Haddonfield, N. J. Trotter (student) was cousin and associate of N. T. Lawrence, an ornithological nephew of George N. Lawrence, and had just left a scholarship at the Academy of Natural Sciences to study medicine. Stone (the naturalist) had recently taken a scholarship at the Academy and was then unknown to any of us save Trotter. His noble rage for bird lore in particular and for animal and vegetable lore in general seems to have been due to spontaneous generation. Voelker had emigrated to the States some years previously from Germany and was a taxidermist of talent, his father being forester on a large German estate.

All of us were young men, Morris being the youngest at 23, and Trotter oldest at 30, when the club was organized.

Several of the members had previously made local observation records for the A. O. U. committee on bird migration, and a more thorough survey of the vicinity of Philadelphia along this line engrossed the Club during the first year. An elaborate summary of this work was prepared by a committee, and Mr. Stone, as editor-in-chief, was delegated to present it to the A. O. U. Congress, soon to be held at Washington, where it was well received and published in 'The Auk.' Previous papers and communications by the members had been published in 'The Auk,' 'American Naturalist,' etc., as well as reports of Club meetings in the local newspapers; in this way not only encouraging the members to do original and careful work, but attracting others to join the Club, or furnish data and specimens which would otherwise have been lost. Applications for membership increasing, an 'associate' class was provided for, unlimited in number, the 'active' membership being restricted to ten persons, who had the sole privilege of voting and holding office. This number has since been raised to fifteen, because of so many associates developing rapidly into first-rate workers. Contrary to the custom of more conservative clubs, our active class is always kept filled by such, it being understood that resignation is in order when any active member lapses into an ornithologically passive state. To insure this elimination of deadwood, the constitution has been so framed as to make it automatic. Associates are restricted to residents in the states of Pennsylvania, New Jersey, Delaware and Maryland, and to any person (age limit not defined) who is proposed by an active member, as one with a taste for bird study. Our object in these selections was primarily to add as much young blood to the organization as possible, and to encourage these fellows

in field work with a view to making verbal reports or reading formal papers at the meetings. Possible publication of these in 'The Auk' was held up as an inducement to greater zeal.

Actives must reside within twenty-five miles of Philadelphia. Meetings are now regularly held in the ornithological room of the Academy of Natural Sciences, at 8 P. M., on the first and third Thursdays of each month, from October to May, inclusive.

Visitors of the *male* sex may attend any of our meetings on invitation of a member. It was at one time debated that a form of honorary lady membership should be instituted, but the establishment of Audubon and other societies about that time seemed to cover the ground so well that no action in this matter is ever likely to be taken.

A corresponding membership was instituted later and has been proved of value to all concerned. At present writing there are 15 actives, 1 honorary (Dr. Samuel W. Woodhouse), 55 associates and 29 correspondents in good standing on the roll. Of these an average of twenty to twenty-five attend meetings with great regularity. Any one versed in the ephemeral or fossilized nature of natural history societies and kindred associations may well inquire what are the secrets of the success of the D. V. O. C. as above indicated. In order of importance these may be listed as follows:

1. An executive and philanthropic member (not necessarily an officer), whose specialty is ornithology and whose whole time is devoted to that pursuit, combining with his business duties in this line the interests of the Club.
2. Official recognition by the Academy of Natural Sciences, which furnishes accommodation for private and public meetings and the Club collections; also the use of specimens illustrative of the exercises of the meetings.
3. The Club collection of life-grouping of birds of the Delaware Valley, taken and prepared by Club members and assigned a separate space for exhibition in the Museum of the Academy.
4. A membership, based primarily on continued accessions of amateurs and so graded as to incite all to effort.
5. A periodical Club publication of proceedings in which all transactions worthy of record not elsewhere published are preserved.
6. Stimulation to original work, among young and old, of such a character as will merit publication in current zoölogical literature.
7. Publication of an annotated list of the birds of Eastern Pennsylvania and New Jersey, based primarily on field work prosecuted systematically by club members.
8. A programme which announces two or more exercises specially prepared for each stated meeting of the club. These, as a rule, are to

be short, may be interrupted by remarks or queries, and are followed by informal discussion in which the juveniles are led to join freely.

9. Field trips led by experts for the benefit of amateurs.

10. Annual meetings of a more pretentious character illustrative of the year's work, with social and gastronomic attractions.

It may be objected by would-be club promoters that the first two secrets of our success as above given are not attainable by the average club. As to the first, however, it is most essential that in its establishment some one competent person should be able and willing to sacrifice a goodly part of his time to getting the club in a fairly automatic running condition along the lines pursued by the D. V. O. C. enumerated above under sections 3 to 10. As we are now constituted, the untiring and skilful labors of our business manager, Mr. Witmer Stone, have become less arduous, and to a certain extent the machine has acquired a sort of reproductive power that insures its perpetuity.

Undoubtedly good live bird clubs can be organized along the same lines as ours and yet be removed hundreds of miles from any seat of learning like the Academy of Natural Sciences of Philadelphia. Let their aim be to establish, wheresoever they are, nuclei for just such a seat of learning as the Academy is to-day. We cannot have too many of them.

English Starling

BY EDITH M. THOMAS

Here's to the stranger, so lately a ranger,
Who came from far over seas;—
Whatever the weather, still in high feather,
At top of the windy trees!

Here's to the darling,—brave English Starling,—
Stays the long winter through;
He would not leave us, would not bereave us,—
Not he, though our own birds do!

Cold weather pinches—flown are the finches,
Thrushes and warblers too!
Here's to the darling, here's to the Starling,—
English Starling true!

For Teachers and Students

How to Name the Birds

STUDIES OF THE FAMILIES OF PASSERES

BY FRANK M. CHAPMAN

THIRD PAPER

FAMILY 5. BLACKBIRDS, ORIOLES, MEADOWLARKS, BOBOLINKS, ETC. *Icteridae*

Range.—The 150 or more species contained in this family are confined to the western hemisphere, where they are distributed from Labrador and Alaska southward to Patagonia, including the West Indies.

Nineteen species and 9 subspecies occur in North America (north of Mexico), 10 species and 5 subspecies being found east of the Mississippi.

Season.—The Oriole and Bobolink are found in the eastern United States only from late April to October; our Blackbirds and Grackles winter from about southern New Jersey southward and are our earliest migrants, coming in late February or early March and remaining until November and occasionally later; while the Meadowlark is a permanent resident from Massachusetts southward.

Color.—With the Orioles orange or yellow and black is the prevailing color, the chestnut of our Orchard Oriole being unusual; the characteristic color of the Blackbirds is indicated by their group name; the colors of the Bobolink, of which there is only one species, and of the Meadowlark, of which there is also only one species, but eight subspecies, are well known.

Size.—The members of this family vary in length from about 7 inches in the small Blackbirds to 24 inches in the Cassiques or giant Orioles of the tropics. Our eastern species range from $7\frac{1}{4}$ inches in the Bobolink to 16 inches in the Boat-tailed Grackle.

External Structure.—So widely do the members of this family differ from each other in external appearance that no one general description can be applied to them. The Orioles have a rather long, sharply pointed bill; with the Grackles it is somewhat longer, less pointed and heavier; in the Blackbirds it is decidedly shorter, and with the Cowbird and Bobolink the bill becomes almost like that of a Sparrow. The bill of the Meadowlark resembles that of the Starling in being flattened and broader than high at the end. In no species are the nostrils concealed by bristles, as with the Crows and Jays, from which birds the members of this family also differ in having the first three primaries of equal length. The



BLACKBIRDS, ORIOLES, ETC. (One-third natural size)

1. Cowbird.

2. Orchard Oriole.

3. Red-winged Blackbird

4. Bobolink male

5. Red-winged Blackbird

marked characteristics of color, however, are the best aid to the field identification of the Blackbirds and Orioles.

Appearance and Habits.—There is as wide variation in the actions of Blackbirds and Orioles as there is in their form and color. The Orioles are nervous, arboreal creatures, restlessly moving from limb to limb and tree to tree; the Grackles, Cowbird, and Meadowlark are terrestrial and walkers, the long tail, sometimes "keeled," of the former, short tail and white outer tail-feathers of the latter are good field characters. The Red-winged Blackbird and Bobolink are birds of the open, inhabiting fields or marshes. Orioles (*Icterus*) are sometimes found associated in small numbers. All our other members of this family migrate and winter in close flocks and some species, notably the Grackles, breed in colonies.

Song.—The Orioles, Blackbirds, and Meadowlarks are whistlers of varying ability with voices ranging from the thin, long-drawn pipe of the Cowbird, or harsh, grating notes of certain tropical species, to the rich, sweet notes of the western Meadowlark. The Bobolink is a musical genus with a song which alike defies imitation and description.

FAMILY 6. FINCHES (Sparrows, Grosbeaks, Siskins, Crossbills, Buntings, Towhees, etc.)

Fringillidae

Range.—While more numerous in the northern than in the southern hemisphere, the 550 or more species contained in this family are found in all parts of the world except the Australian region. Of this number 92 species and 84 subspecies are North American.

Season.—Finches are with us at all seasons. A large proportion of our permanent resident and winter visitant Passeres being Finches, and while a number of species are summer residents only, their migrations are less extended than those of insectivorous birds.

Color.—While there is a wide range of color in the plumage of the members of this family, the variations are more or less closely related to the nature of the birds' haunts. Thus the ground-inhabiting Sparrows are largely streaked and lark-like in color, while the bush- or tree-haunting Finches are generally brightly colored.

External Structure.—The possession of a stout, short, cone-shaped bill is the distinguishing characteristic of nearly all Finches, and is evidently related to their seed-eating habits. By this member alone our Finches may always be known from the members of other families of eastern North American birds.

Appearance and Habits.—Finches impress one as being short-necked, thick-set, *chunky* birds. The ground-inhabiting Sparrows, like most ground-feeding birds, are seen either flying as they rise before one, or perching motionless with head well drawn in between the shoulders. The



FINCHES, SPARROWS, ETC. (One-third natural size)

1. Field Sparrow
2. White-throated Sparrow

3. Tree Sparrow
4. Song Sparrow
5. Pine Grosbeak
6. Rose-breasted Grosbeak

7. Towhee
8. Indigo Bunting

tree-feeders—Crossbills, Purple Finches and others live among the branches where they obtain food. All Sparrows are hoppers, a habit which should serve to distinguish certain of the ground-living species, from the Horned Lark or Pipit, both of which are walkers.

Song.—Though varying greatly in vocal ability, most Finches are fine singers.



What Bird is This?

Field Description.—Length, 5 in. Crown yellow; back gray; belly white, tinged with yellow; wing-bars yellow; tail feathers with white blotches.

NOTE.—Each number of BIRD-LORE will contain a photograph, from specimens in the American Museum of Natural History, of some comparatively little-known bird, or bird in obscure plumage, the name of which will be withheld until the succeeding number of the magazine, it being believed that this method of arousing the student's curiosity will result in impressing the bird's characters on his mind far more strongly than if its name were given with the picture.

The species figured in February is Henslow's Sparrow.

The Young Observers' Prize Contest

Young observers who are competing for the prize announced in February BIRD-LORE should send their 'Notes on the Birds of February and March' to the Editor in April. A similar prize is now offered, that is, books to the value of two dollars, for the best seven or eight hundred word article on 'Notes on the Birds of April and May.'

For Young Observers

My Bluebirds

BY LAWRENCE F. LOVE, Cleveland, O. (Aged 12 years.)

ONE day in February, I put up three bird-boxes, two large ones and one small one, hoping that a Wren would take the small box.

Soon I saw some Bluebirds. Of course I began to watch them to find where they were going to nest. First they began to build in a hole in an old apple tree, but the Sparrows seemed to think it belonged to them and they gathered in great numbers to drive the Bluebirds away. A kind Robin helped them to defend it, but in the end the Sparrows conquered, and my bluecoats began to look around for a new nesting place. They tried one of the houses, but did not seem satisfied with it. Finally, one Sunday morning near the middle of April, I saw the dull-bluish female carrying straw to the box nearest the house. Even there the Sparrows troubled them, but the Bluebirds drove them off. One day when the eggs were laid the Juncos joined with the Sparrows in an attack. It is impossible to say which side was defeated, but the Sparrows bothered the Bluebirds but little afterward. On May 14 the young ones came out of the nest. There were five. Three were brownish on the back, with a little blue on the tail. Their breasts were grayish, spotted with brown. The other two had more blue about the head and back; I think these two were males. One of these was the first to fly, and he flew to the ground besides a porch, where a dog stood looking down on him. I put him into the nest, but he flew out again, and got into the lower branches of a tree. One of the others flew into another tree, and the others soon followed. Then a venturesome one flew, but was stopped by a house. After resting on a window sill for a moment, his mother coaxed him into a tree. In the meanwhile, the rest had flown, and for a while the old birds were busy teaching them to fly well. Then the little ones roosted in the top of a high apple tree. The next morning the parents were engaged in feeding them, and such appetites! The one that first flew was the weakling, and did not learn to fly well for several days. Then I missed them for some days, and thought they had learned to care for themselves. But one afternoon I heard the familiar call, and looking up into a tree, found them. Now they acted like fly catchers, flying into the air like fly catchers, and returning to their original perch. They were strong in flight, and it was difficult to tell them from the old ones. They were beginning to care for themselves and were developing a voice of sweetness.

Book News and Reviews

STORIES OF BIRD LIFE. BY T. GILBERT PEARSON. With illustrations by and under the supervision of John L. Ridgway. Richmond. B. F. Johnson Publishing Company, 1901. 16mo, 236 pages, numerous ills.

Professor Pearson has drawn on a lifelong field of experience to furnish the material for this volume which, therefore, unlike many additions to popular ornithology, possesses much of interest and value. A close student and sympathetic recorder, he presents us with a series of studies of certain birds in the south which may be read with both pleasure and profit by beginners as well as past-masters in the study of birds. It is, however, to the former that he especially addresses himself, and his experience in teaching gives him a point of view which many popular nature writers lack. Having told his story he calls attention to the significance of the facts observed in a series of what he has well named 'thought questions,' which should lead the reader to make independent observations. The book is thus admirably adapted for school work, and we wish for it the wide circulation it deserves.—F. M. C.

A FIRST BOOK UPON THE BIRDS OF OREGON AND WASHINGTON. BY WILLIAM ROGERS LORD. 1902. J. K. Gill Company, Portland, Oregon. 16mo, 304+iv pages, numerous ills.

This is a revised, enlarged, and greatly improved edition of the first edition of this book which was issued in the summer of 1901. Attracted by West Coast birds Mr. Lord found, on coming to this region, that there were no popular guides to a knowledge of western birds and he has prepared this book to meet in part what is evidently a widely felt want.

The combined experience of a student and teacher of birds make the needs of both a practical matter, and Mr. Lord writes as one who addresses an audience with whose wants he is familiar. Thus there are chapters on 'How to Know the Birds,'

'How to Name the Birds,' 'How to Domesticate and Tame Birds,' and 'A Course of Study upon Birds for Schools and Bird Students.' The latter is here of especial importance, since the book has been selected for supplementary reading in the public schools of Oregon.

The publication of the first edition of this work brought to its author much additional information "both for new knowledge and for correction," and the present edition may be accepted as accurate and authoritative. It should exert a very important influence on the study of the birds of Washington and Oregon.—F. M. C.

WILD BIRDS IN CITY PARKS. BY HERBERT EUGENE WALTER AND ALICE HALL WALTER. Revised Edition. Chicago. 1902. 16mo, 45 pages. For sale by F. C. Baker, Chicago. Academy of Sciences, Lincoln Park, Chicago.

Students of the bird-life of city parks, which often offer unusual advantages for observing the migration, will be interested in this booklet which is based on a study of the spring migration of birds during the past six years in Lincoln Park, Chicago, and is designed especially for the use of bird students in that locality. It contains some admirable 'General Hints' on bird study, descriptions of 100 species of birds arranged in the order of their average first appearance, 'A Table of Arrival,' 'a Table of Occurrence,' 'a chart showing the number of different kinds of birds seen in Lincoln Park during the height of migration,' a 'Supplementary List' of birds which may be reasonably looked for, and a blank for recording observations. All this is excellent, but we should imagine that the book would be more helpful to students of the birds of Lincoln Park if the space devoted to descriptions of plumages had been given to fuller information concerning the manner of a bird's occurrence, than can be presented in tables or by diagrams.—F. M. C.

The Ornithological Magazines

THE AUK.—The January 'Auk' has for a frontispiece a fine photogravure, taken of a Herring Gull on its nest. A price has been set upon the heads (and other parts) of these birds by milliners, so that they and their allies need rigid protection to save them from extermination. How much has been afforded them in their breeding colonies through the Thayer fund is told in Mr. Dutcher's report, which occupies many pages with this and other bird protection work. Mr. Stone also contributes a report.

Mr. Bent continues his paper on the 'Nesting Habits of the Anatidæ of North Dakota,' with some further illustrations. Two annotated lists appear, one on 'Summer Birds of the Great Dismal Swamp,' by John W. Daniel, Jr., and another on 'Birds of the Northeastern Coast of Labrador,' by Henry W. Bigelow. A desirable item is omitted in the latter list; viz., the actual time spent in Labrador by the Brown-Harvard Expedition of 1900. Jas. H. Hill tells pleasantly of 'The White-winged Crossbill in Captivity,' captured in Connecticut. Wm. H. Kobbe writes on 'The Status of Certain Supposed Species of the Genus *Larus*,' maintaining that *L. vegæ* is identical with *L. argentatus*. There is also a brief account of the Nineteenth Congress of the A. O. U., held in New York, and those interested in new forms of birds will find several described by R. Ridgway and E. A. Mearns. The latter also describes a hybrid between the Barn and Cliff Swallows, which makes a second specimen of this kind on record.

General Notes and Reviews are too extensive to be entered into, although the recording of no less than six Cory's Bitterns at Toronto, by J. H. Fleming and the review of R. Ridgway's 'Birds of North and Middle America' seem of particular interest. The 'Solution of the Ornithological Mystery' of Mr. Brewster is by no means conclusive.—J. D. JR.

Book News

THE pronounced success of 'Country Life in America' must be gratifying alike to lovers of the country as well as those who

delight in beautiful typography. The illustrations are not only unusually artistic but strikingly illustrative and, so far as the straight half-tone process at present permits, they are evidently reproduced with justice to the originals. The March number, the fifth thus far issued, is especially attractive and seasonable. Under the head of 'The Coming of Spring' a calendar of 'Work,' 'Recreation,' and 'Nature Study' for the month is given. While in the main excellent, the author shows the danger of trying to cover too wide a field by advocating as a "novel sport" the killing of Hawks! After virtually admitting the economic value of the birds by saying that at this season they "congregate on the meadows where food is plentiful" (he does not add that the "food" consists of meadow mice) he proceeds to give suggestions for the best way to shoot these "feathered sharks," and this, be it further noted, in the mating and breeding season! One wonders that so obvious a slip escaped the editorial eye.

In 'The Flight of the Osprey' Alfred J. Meyer shows a number of very interesting photographs of Ospreys on the wing.

HOUGHTON, MIFFLIN & Co., will publish shortly 'A Handbook of Birds of the Western United States,' by Mrs. Florence Merriam Bailey. This greatly needed book will include the birds west of the 100th meridian and contain over 500 illustrations, the principal ones by Louis Agassiz Fournes.

THE BIOLOGICAL SURVEY of the U. S. Dept. of Agriculture has recently issued a revised edition of its Bulletin No. 12, 'Legislation for the Protection of Birds other than Game Birds,' by Dr. T. S. Palmer. This admirable and useful publication not only presents the federal and state laws relating to non-game birds, but treats of such allied matters as 'Birds in Captivity,' 'Birds used for Millinery Purposes,' 'Bird Study in the Schools,' 'Bird and Arbor Day Laws,' etc., and is therefore indispensable to every one actively interested in bird protection.

'OUR BIRD FRIENDS,' a game of bird cards, seems unusually well designed to arouse in children an intelligent interest in birds.

Bird-Lore

A Bi-monthly Magazine

Devoted to the Study and Protection of Birds

OFFICIAL ORGAN OF THE AUDUBON SOCIETIES

Edited by FRANK M. CHAPMAN

Published by THE MACMILLAN COMPANY

Vol. IV Published April 1, 1902 No. 2

SUBSCRIPTION RATES

Price in the United States, Canada, and Mexico twenty cents a number, one dollar a year, postage paid.

Subscriptions may be sent to the Publishers, at Harrisburg, Pennsylvania, or 66 Fifth avenue, New York City.

Price in all countries in the International Postal Union, twenty-five cents a number, one dollar and a quarter a year, postage paid. Foreign agents, MACMILLAN AND COMPANY, LTD., London.

COPYRIGHTED, 1902, BY FRANK M. CHAPMAN.

Bird-Lore's Motto:

A Bird in the Bush is Worth Two in the Hand.

BIRD-LORE has published no more helpful articles for field students than Mr. Brewster's 'Voices of a New England Marsh,' to which we gladly devote a large part of this number, postponing to a subsequent issue other articles announced for April.

The Cat Question

The most important problem confronting bird protectors to-day is the devising of a proper means for the disposition of the surplus cat population of this country. By surplus population we mean that very large proportion of cats which do not receive the care due a domesticated or pet animal and which are, therefore, practically dependent on their own efforts for food.

We are not prepared at present to give this subject the attention it deserves, but the introduction of a bill in the Massachusetts legislature to require the licensing of cats impels us to say a word in favor of a measure which we have long thought would go far toward solving the cat problem.

In the absence of data showing the number of cats in this country, common knowledge of Tabby's favored place on every hearth-stone, together with her well-known talent for the reproduction of her kind, permits us to form some conception of her

abundance; and a further knowledge of her widespread distribution in field and forest would add largely to our most conservative estimate of her numbers. In our own opinion there are not less than twenty-five million cats in the United States and there may be double that number.

How many of these cats are domesticated, in the true sense of the word, and how many gain their living by the strength of their claws we cannot say, but, in any event, it should be remembered that oceans of cream and miles of blue ribbon have not subdued Pussy's instincts for the chase nor destroyed her skill as a hunter. A house-cat has been actually known to kill fifty birds in a season and a naturalist, than whom none is better qualified to judge, believes that five hundred thousand birds are annually killed by cats in New England alone! Apply these figures to the cats and the country at large and the result is appalling.

We would not, however, urge the extermination of cats. Wholly aside from the pleasure they give to lovers of pets, cats are the natural enemies of those other introduced evils, rats and mice. The cat is an automatic, self-setting mouse-trap and as such she commends herself to housekeepers who perhaps may not be otherwise favorably impressed by her peculiar personality.

But we do strongly advocate such a reduction of the cat population as would follow the passage of this proposed Massachusetts law with its required annual licensing of cats, its fine imposed on cat owners who do not comply with its provisions, and its instructions to the proper authorities to kill all non-licensed cats.

Such a law should be supported not only by bird lovers but by cat lovers. By the former because the restriction of the cat population to the well-fed Tabby of the fireside would not only greatly reduce the cat population, but would, or should, do away with its worst element, the cats who hunt for a living. It should be supported by the latter because its enforcement would put an end to the existence of the many starving, homeless felines of our cities whose happiest fate is sudden death.

The Audubon Societies

*"You cannot with a scalpel find the poet's soul,
Nor yet the wild bird's song."*

Edited by MRS. MABEL OSGOOD WRIGHT (President of the Audubon Society of the State of Connecticut), Fairfield, Conn., to whom all communications relating to the work of the Audubon and other Bird Protective Societies should be addressed. Reports, etc., designed for this department should be sent at least one month prior to the date of publication.

After Legal Protection, What?

It is recognized that giving the bird legal protection against unnecessary death is the first step toward establishing its citizenship in the commonwealth, and it is equally well understood that the judicious reading and enforcement of the law is not to be merely the work of a few years but the duty of successive generations. Moreover, if legal protection was a deed accomplished, instead of an uneven and local "declaration of intentions," so to speak, it would not be sufficient to give the freedom of the land; the opportunity for establishing the home and earning a living must be offered as it would be to human colonists coming to a region of questionable hospitality.

The liberty to come and starve in a treeless, arid region of destroyed forests and dwindling watercourses is of little avail in restoring birds to haunts so entirely transformed; protection, food and shelter must be the invitation.

I put shelter first, for given proper, *i. e.*, natural shelter of tree, bush, hayrick, the bird will seldom fail of eking out a living, except in the four or five months that ice locks the storehouses and granaries of bark and seeding weeds and wild grass lands. In many cases the very means of shelter in themselves offer a food supply, like the red cedars by their berries, the spruces by their cones, and the heavily matted compositæ, by roadsides and field corners, by their seeds. The feast that seeded sunflowers, zinnias, asters and marigolds set for the birds of the garden in autumn and winter is spread freely along the highways of the migrants, if only the purblind farmer can be made to withhold his stub-scythe from the autumnal massacre of the beautiful.

Shelter is the bird's first necessity at all periods of his life. Before birth shelter for the nest and unhatched egg, then protective feather colors to shield the bird until its pinions can bear it to safety. Next woodland shelter for the period of the molt, then shelter of night, foliage or dusky traveling cloak for the southern migration.

In a state of nature, when the succession of growth and decay marched in the simple path of purposeful evolution, when the crumbling tree offered its sheltering hollow, the mature tree its stalwart branches, and the sapling its close, low-growing verdure all went well, but now man must work out the penalty for man's stupidity, and if he would restore the birds not only plant trees, but see to it that he plants the trees of the birds' choice, not his own.

In the forestry now being practiced in this country, as well as in the somewhat scattering Arbor Day planting, the matter of variety and individual fitness should have more attention. When cleared woodland is to be replanted, or a naked watercourse to be recovered, it is always best to replace the former inhabitants as far as possible, but where the planting is of a bare and newly surveyed suburban town, the difficulties are great and the choice of trees will be in a measure an index to the future bird population. If one may not expect grapes of thorns, or figs of thistles, neither can one have Baltimore Orioles in stiff young maples, Catbirds in elms, or Bluebirds, Nuthatches and Chickadees nesting in new apple trees with awful whitewashed trunks.

If you would consider tree-planting from the bird standpoint, make a list of a dozen or fifteen of the birds that were once the common inhabitants of your village, or garden and its neighboring byway, and study

out the varieties of trees that attracted them and the causes that have driven them away. The winter-killing of hemlock hedge, thick as a wall, the replacing of a tangle of old spireas and weigelas by trim individual shrubs, the death, from the approach of tillage, of a crown of cedars that made a blue-green spot above the snow in a waste pasture, the formalizing of a cat-tail and bush fringed spring to be a cement-edged duck-pond—all have their tale to tell. The former of the slothfulness of man, who does not replace, as nature, inexorable, does, the latter the taint of commercialism where it is so often unnecessary, the trade spirit that insists upon a material yield instead of the richer one of beauty.

Any one can buy good fat ducks at so much per pound in the market, but money alone cannot create the pool that sends out the hylas' greeting in March and from its sheltering trees and bushes the music of Red-wing, Marsh Wren; Water Thrush, and Veery echoes through the spring dawns and twilights. I am very glad that I shall not be alive when the world's water is all utilized, the marshes drained, the weeds subdued, a universal insecticide invented; all waste-land reclaimed. What a horrible, lonely, selfish world it will be.

If you replant from the bird standpoint, beside trees you must have bushes and vines in a four to one proportion.

The bird may sing in a lofty tree top and a few species nest there, but it is either close to the ground in the small tree, or impenetrable bush or hedge that is the nesting place, the waiting room where it rests between excursions for food and during rainy weather.

As a part of our families are winter residents there should be evergreens with the lower branches left to trail on the ground, as well as other thick underbrush for shelter.

Neatness, cutting up, and relentless pruning and shaping of shrubs and trees are doubtless very moral processes in their way and may be sometimes necessary when insects and blight gain mastery in a garden, just as disinfecting fluids are in an epidemic, but they are quite as offensive to birds as pop-guns.

The taller deciduous trees, elms, maples, birches, etc., offer in summer the shelter of shade and the food always to be found in the greenery and bark covering of branches, but during family life it is in the lower fruit trees full of convenient nesting places of knot-hole and crotch where the majority of birds congregate. And after a storm the birds may always be seen flying from the low evergreens and wild hedges.

"But," you say, "we cannot plant old orchards." No, but every village should cherish the few that remain as public aviaries. For nowhere else can those familiar birds, so dear to us all, be sheltered, and if the orchard is inclosed by a stone wall or snake fence in whose protection a hedge of aspens, sumachs, red cedar, hackberry, elder and wild roses, barberries and tall blackberries has sprung up, with all the branches trimmed and draped by clinging vines, fox, and frost grapes, waxwork, Virginia creeper, clematis.

Such a place is a birds' paradise, and in planting to please the birds keep it in mind. Small places can easily be fenced by either arborvitæ, hemlock, or privet hedges; stone walls concealed and beautified by berry-bearing bushes, and by vines that not only offer shelter but food as well. Lacking wild vines, plant nursery stock; half a hundred plants of Concord grapes may be cheaply had and scattered liberally about the fences and outbuildings of every modest home.

Then there is the cheerful Chinese honeysuckle that is sturdy and stout of limb. I would have you plant it everywhere as I have, until it riots and flourishes over porch, trellis, walls, bushes and in masses on the ground, like the veriest weed.

A clean vine is this honeysuckle, and one that never injures the painted house wall against which it may be trained; its flowers, beginning in June, give a tropic quality to the night air, offer a feast alike to the Humming-birds by day and the night-flying hawk moths. The leaves of dark rich green give shelter from heat and cold and cling on bravely until past midwinter, March even finding some still clinging to the south porch. As for the glistening blackberries, many a breakfast do they give

to the winter birds that roost in the impenetrable lattice. And as for the vine as a breeding haunt I have found in various seasons the Robin, Catbird, Yellow Warbler, Song Sparrow, Rosebreast, Chippy, Wood Thrush, Maryland Yellow-Throat, Thrasher, Towhee, Indigo Bird and Field Sparrow nesting in my honeysuckles, some of which are near the house or in the garden, while that chosen by Rosebreast and Thrasher was an old resident that had appropriated a tangle of briars and pea brush. By all means plant hedges and vines, especially honeysuckles. Many people dislike evergreens of all kinds, considering them gloomy in appearance and shuts out of air. That they are wind-breaks is certain, hence their value. What promises warmer shelter from a storm of sleet and snow than an arborvitæ hedge? What offers a better retreat to the Grosbeak, Crossbill, Pine Siskin, Brown Creeper and other winter birds than a finely-grown group of white spruces? Here are shelter and food at once, the sweetest of meat tucked away between the scales of the spruce cones. Of a snowy morning what more cheery sight than these same spruces standing green and brave above the whiteness, while the Crossbills shell the cones with that peculiar rustling sound and call and whisper over the breakfast?

By all means plant evergreens in hedges and groups, and do not trim them into the shape of those top-heavy trees found in the Noah's Ark of your youth unless you yourself are willing to wear the costume the toy maker gave Shem, Ham and Japhet, to keep them company. The question of planting wild fruits to divert the birds' appetite from cultivated crops, as well as the matter of the various foods to be issued as rations in time of need, have brought out many interesting and instructive papers, though some of them are rather misleading and complicated.

The difficulty about the general use of wild fruits as a counter attraction to the garden is that the garden varieties of a species come into bearing first, though in a succession the tame may overlap the wild. A robin will hardly leave a tree of

luscious garden cherries for the less attractive thimbleberries of the wild hedge. Then, too, there are several wild fruits of an undoubted attraction in luring birds that have in themselves bad qualities for neighbors. The black wild cherry, *Prunus virginiana*, that is found in bearing in Southern New England in all sizes from a bush to a sizable tree, is sure to be the gathering point for the fruit-eating flocks of midsummer and early autumn, and I harbor a tree of this species in full view of my garden house. The tree was there first and I respect its priority, and many interesting scenes of bird life have been enacted in it, but I would never advise the planting of the species for two reasons: It is a chosen breeding-place of the tent caterpillar, and this scourge may be seen traveling over the country and spreading from orchard to orchard via the wild cherry; and, secondly, the tree branches in a withered state are in the ranks of "plants poisonous to cattle." And if for the sake of the birds these cherries are miscellaneously planted along byways and pasture fences and cattle nibble the windbroken branches, the drying up of milk and often death is the result of this cherry's toxic qualities. As for bird rations, bones, suet, bread, seeds, nuts, etc., all have their place, but I have found a universal food for all seasons and for both seed- and insect-eating birds, Spratt's dog and puppy biscuits! I say that I found it? No, the birds found it for themselves and three years ago first drew my attention by the way in which they flocked about the kennels where the bits and crumbs were swept out and trodden into the gravel. The biscuits are compounded of meat scraps, coarse grain and beet fibre, and each bird selects what it needs.

In spring I have seen Redstarts, Myrtle and Chestnut-sided Warblers picking up this kennel dust close by my window, half biscuits tied to trees attract Woodpeckers, Nuthatches, Chickadees and Creepers. The finely-powdered fragments spread on a shed and in the crevices of some flat rocks in the old pasture are eaten freely by Meadowlarks, and only yesterday I saw a Blue Jay carrying small bits from a puppy's

dish to the shed corner where he first beat, and then devoured them much as he would beech mast.

M. O. W.

FIFTH ANNUAL REPORT OF THE AUDUBON SOCIETY OF THE DISTRICT OF COLUMBIA

The Audubon Society of the District of Columbia, the eighth on the list of societies now represented in twenty-five states, was organized in May, 1897. The society has grown steadily in number, interest, and income until the membership has reached 252, of whom 90 are contributing members.

The objects of the society, the study and the protection of birds, have been lived up to thoroughly. For the study of birds during this last year good work has been done in the schools. Before the Normal School one informal talk was given by Dr. T. S. Palmer and one by Dr. Sylvester D. Judd. A class of teachers was organized in the spring and conducted by Miss Elizabeth V. Brown. Six weeks' study was given to song birds. The society's collection of specimens was used by this class and was also loaned to the Cathedral School for Girls.

During the year 1901 seven meetings were held, including the Annual Meeting, at which illustrated addresses were given by Mr. Frank M. Chapman on the 'Colors of Birds,' and by Dr. T. S. Palmer on 'Recent Progress in Bird Protection,' three members' meetings in March, April and December, and three Field meetings in May, the last one at Glencarlyn, Virginia. This beautiful and romantic region was explored during the afternoon and in the evening, in the town hall, an enthusiastic meeting was held which resulted in the organization of the Audubon Society of Glencarlyn, the first in the state of Virginia.

In May Miss Cady, of New York, gave a piano recital in aid of the society.

The work in legislation has been unusually active. Through the coöperation of the Fish and Game Association, the committee on legislation secured the enactment of a new bird law which protects, throughout the year, all wild birds except game birds and five injurious species. Through the Superintendent of Police formal notice

was served on nearly all local milliners calling their attention to the fact that the new law prohibits the sale of plumage of native birds and advising them to return such stock to the wholesale houses with explanations that its sale has become unlawful in the District. Assistance was rendered the Glencarlyn Society in its organization and in framing a bill for the protection of birds, which was introduced at the opening of the Virginia legislature in December, 1901.

Publications for the past year have been 'Laws for the Protection of Birds and Eggs in the District of Columbia,' and a short 'Sketch of the Life of John James Audubon.'

The fifth Annual Meeting was held on January 27, 1902. After the election of officers, Mr. Harry C. Oberholser spoke on the 'Pleasures and Advantages of Bird Study.' He illustrated his remarks with numerous views of young birds, nests and eggs and emphasized the fact that the poetry in birds cannot be appreciated without familiarity with them and their habits. After the lecture Mr. Olds explained the objects of the society and advantages of membership.

The meetings outlined for the season include a public lecture in March by Dr. Francis Herrick, members' meetings in February and April, followed by field excursions in May.

JEANIE MARY PATTEN, *Secretary*.

Meeting of the Audubon National Committee

A meeting of the National Committee of the Audubon Societies will be held at the American Museum of Natural History, New York City, at 10 o'clock on the morning of April 4.

A New Audubon Society

Prof. T. Gilbert Pearson, of the State Normal and Industrial College, at Greensboro, North Carolina, writes that a North Carolina Audubon Society was formed at that place on March 11, with a charter membership of 140. Details of the Society's organization will be announced later.



NEST AND EGGS OF CHESTNUT-SIDED WARBLER

From nature, by A. Radclyffe Dugmore

Bird = Lore

A BI-MONTHLY MAGAZINE
DEVOTED TO THE STUDY AND PROTECTION OF BIRDS

OFFICIAL ORGAN OF THE AUDUBON SOCIETIES

Vol. IV

MAY — JUNE, 1902

No. 3

The Increase of the Chestnut-sided Warbler

BY A. RADCYFFE DUGMORE

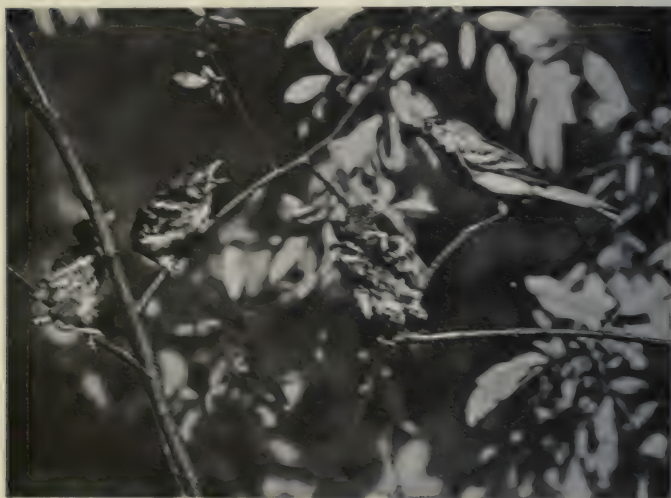
With photographs from Nature by the Author

ANY one who observes the birds of a locality for many years in succession will notice that certain birds become more abundant, and others less so, as years go by, and that while one bird will be very common for several years, there will perhaps be a year when this particular species will be comparatively scarce. In the region about South Orange, New Jersey, particularly the part known as the 'Mountain,' the Field and Song Sparrows are usually very abundant during the breeding season, but last year (1901) they were scarcely as common as the Blue-winged Warblers and Maryland Yellow-throats. Brown Thrashers, also, were less common than they have been during my stay in South Orange; while Indigo Birds, Ovenbirds, and several other species were remarkably common. But what has been most noticeable about the bird-life of this particular locality is the rapid and steady increase of the Chestnut-sided Warblers. It has been interesting to watch the increasing number of these delightful birds. In the summer of 1897, the first year that I did any systematic bird work in this locality, these birds were so little in evidence that I did not observe a single specimen. That they might have been there is, of course, more than probable, but they must have been extremely scarce, for during the breeding season I spent a good deal of time in likely places and yet never even heard their song, which is quite conspicuous whenever the bird is nesting.

The following year, in a certain large clearing (about a quarter of a mile square) that is well covered with thick underbrush and a young second growth of chestnut and oak, I noticed one pair on May 1. The male bird was then in full song, and three weeks later the birds had commenced building. During this same summer I saw one pair in another clearing that was situated within half a mile of the place in which I had

seen the first pair. In 1899 the larger clearing already referred to contained three pairs, all of which nested and two of the broods were hatched, and, I believe, left their nests at the proper time, but the third nest was destroyed. In other clearings, within a distance of a mile or so, there were a few Chestnut-sided Warblers, but they were by no means common. Each of the several clearings, except one, had a pair of the birds that I knew of, perhaps they had more; but I doubt it, as I spent the entire time from May till August in the vicinity and visited each locality several times every week.

In 1900 the Warblers were comparatively common, every clearing



CHESTNUT-SIDED WARBLER AND YOUNG

containing several pairs, and last summer they were still more abundant, four pairs occupying a clearing of only a few acres, while in the large clearing there were more than could be counted with accuracy; probably not less than seven or eight pairs.

What has influenced the rapid increase of these birds in this particular locality is difficult to discover. Apparently there have been no great changes so far as vegetation is concerned: the scrub is a little more dense, and the second growth somewhat higher, but to the eye it would be difficult to find any marked changes other than these. While we are unable to account for the increase of the Chestnut-sided Warblers, we find it

equally difficult to give any reason for the marked decrease in the number of the Brown Thrashers and apparent decrease in the Song Sparrows during the breeding season. The Thrashers used to be very common, but during the past two years they have been, as already stated, noticeably scarce.

All the Chestnut-sided Warbler's nests that I have found in this region in question, were placed in azalea and huckleberry bushes, mostly the former, and always within three and a half feet of the ground, usually very much lower. The situation chosen was in most instances near a fair-sized tree, not one being found in the more open part of the clearing. About



CHESTNUT-SIDED WARBLER FEEDING HER YOUNG ON THE AUTHOR'S HAND

the last week in April the birds arrive and their nests are built between May 20 and the middle of June. The nest, which requires from two to four days to build, is composed of light-colored plant-fiber and bark, with a lining of very fine grass and roots.

Notwithstanding all that has been said about the extreme tameness of these birds, those that I have seen were very much less confiding than the Blue-winged and Worm-eating Warblers. In trying to secure photographs of them with their young I met with most scanty success, in spite of the many hours spent in the attempts. Once the young had left the nest the old birds seemed to lose some of their shyness, and in one case I succeeded not only in obtaining photographs of the parent bird with its young perched

on a bush, but also on my hand. But at no time would the male bird come near, and the female showed a strong dislike to both the camera and me.

Perhaps I judge these birds too harshly; if so, it is because of the good luck I have had with such birds as the Blue-winged Warblers. In every instance I have found the latter extremely tame, and with one pair in particular. Scarcely an hour after finding a nest the parent bird perched on my hand, and several times have I had both of the old birds on my hand and shoulder. After experiences of this sort one does not consider a bird tame unless it shows an utter lack of fear for both man and the camera.



CHESTNUT-SIDED WARBLER FEEDING HER YOUNG ON THE AUTHOR'S HAND

The Chebec's First Brood

BY FRANCIS H. HERRICK (Author of 'The Home Life of Wild Birds')

With Photographs from Nature by the Author

WHEN we reached Tilton and Northfield, in New Hampshire, early last summer, the little Chebecs were nesting in the apple trees about our house. In looking over my notes for that period I find records of six of their nests. The eggs and young found in five of them during the month of June presumably represented first broods, while there could be as little doubt that the five eggs which a single nest contained on July 10 were a second batch.

One of the nests was moved, with its branch, to a good light and position where the simple home life of these little Flycatchers could be watched and registered with ease. I was, therefore, interested in comparing my experience, a brief account of which is soon to follow, with that of Mr. Hoffmann, whose article on 'A Chebec's Second Brood' appeared in BIRD-LORE for October, 1901. His nest, which was first transferred from its

original support to another and afterwards moved to a greater distance, unhappily encountered a thunderstorm which killed one of the young and threatened to destroy the whole brood. Wind and rain, as every student of birds knows, play sad havoc with eggs and nestlings, but the destruction wrought by sudden and violent storms is well-nigh incredible. I have seen a Chebec's nest which had suffered from this cause, and found two of the young lying dead on the ground below, although the supporting bough was unusually firm. Mr. Hoffmann's birds evidently had not fully adopted the new site when the storm came: and in such a case, if one is fortunate in being near the spot, he can do no better than follow his example and return the nest and branch to its original position, or to a convenient place of shelter.

Whatever means we adopt to study birds, we should try to help rather than hamper them in the battle for life, and we deserve little credit if we can only say that we have introduced no greater dangers than already exist. Let us rather aim to lessen the dangers which surround every nest of wild birds whenever possible, and this can usually be accomplished by a simple means to be described later.

The nest, which was watched for nearly a month and is shown in the photographs, had slightly incubated eggs on June 9. The female would sometimes hold her place until your hand was dangerously near, and then go off quietly, or dart at your head with audible snapping of the bill, and give her sharp, protesting *chebec! chebec!* The scenes at a Chebec's nest are never very exciting: their life follows a well-defined routine which possibly seems more mechanical than it really is. Though small in stature, obscure in dress, and possessed of no song, this Flycatcher can at least boast of clean-cut, unmistakable call-notes.

Eleven days later, at 3.15 P. M., a young bird had just hatched and was still wet, the egg-shells having been promptly removed. At least twenty-four hours elapsed before the three others appeared.

This nest was taken down at 2 o'clock in the afternoon of June 29, according to the plan which I have followed for the past three summers, and have fully described in 'The Home Life of Wild Birds.' The weather which followed was the most unfavorable I have ever known at that period of summer, intense heat and sultriness streaked with rain, lasting with scarcely a break well into July. At this time the first bird to hatch was exactly nine days old. Notwithstanding the drawbacks and the somewhat conspicuous position of the nesting bough, which attracted many persons, who came out of curiosity to take a look at the little birds, everything went as well as could be wished. The young took flight on July 5, life at the nest having lasted exactly two weeks, and for at least eleven days longer, true to their custom of cultivating a small plot of ground, they remained close to the original site when not in the old roof-tree itself.

The mother was brooding when I took a look at the displaced bough one hour and a half after its removal from the tree, and next day at about noon the young were being fed on the average of once every two minutes. Inspection and cleaning went on with the utmost regularity, and the male



CHEBEC ABOUT TO BROOD, AFTER HAVING FED AND INSPECTED HER YOUNG

Photographed with full lens and in 1-25 second, but with other conditions similar to those of following figure

brought food while his mate brooded or stood astride the nest with half-spread, drooping wings to ward off the heat.

The tent was pitched before this nest on July 1, but being engaged in studying other birds at the time, I spent but part of two days in watching the nesting scenes. Notwithstanding the high wind on the first day, which kept the tent flapping like the sails of a vessel at sea, and every leaf and twig in motion, the mother came to the bough promptly, and served the first meal to her young in exactly twenty minutes from the moment the tent was closed. Again they were fed in a very short space, and in the thirty-four minutes which followed, during which I remained continuously in the tent, from 9.16 to 9.50 A. M., the young were fed with small insects twenty-two times. The incisive *chebec* of the male sounded incessantly from a neighboring apple tree, while at this juncture the female did all the work. At each visit the young rose up in the nest, displayed their bright orange-yellow throats, and chirped briskly, producing a kind of rolling chitter or seething chorus of sounds. The four swayed about from side to

side as one bird, until the intensity of their emotion was relieved by a small dragonfly or moth, or by any insect which these expert flycatchers chanced to spy and snap up on the wing. Inspection followed each feeding with the usual precision, and the excreta was often taken and removed to a distance from the nest.

When the feeding and inspection were over, if the heat were excessive, the mother would stand astride, spread her wings over the youngsters and remain in this position with crest erect and often with the mouth agape for five or ten minutes at a time. Then of a sudden she is off; her eye is keen, and her aim is sure; with a snap the mandibles close over the helpless insect, and rapidly describing a graceful loop in the air, this bird is at the nest again with the prey. If you showed yourself outside the tent, both birds would flit about excitedly, erecting crests, pumping tails, turning heads from side to side and sounding their *chebecs* or *chicks* with renewed emphasis, but would return to their accustomed duties the moment you disappeared beneath the screen.

The next day being still hotter, the young were brooded almost constantly until twelve minutes past noon, before they got a morsel of food. The timidity of the male was most marked, for he rarely came to the nest when the tent was before it. Although the parental instincts are commonly stronger in the female, this is not always the case. In a family of Bluebirds which I studied last summer the male was not only fearless but pugnacious to a remarkable degree. Shooting from his lofty perch straight at every intruder, with loud and angry snapping of the bill, he would make the boldest person involuntarily duck his head.

Another brood was successfully reared in a tree at the top of the hill. Incubation began about June 7, the young were hatched by the 20th, and were on the wing by July 5.

During the past summer I have taken special precautions for the safety of the young, and added a number of improvements or refinements to the general method, only one of which can be mentioned here. The nest, with its supports, when removed and set up in a favorable position for study, should be protected by a screen of fine wire netting three or four feet in height and pinned to the ground with wire staples. It is better to allow a strip to hang more or less free from the top. The reader should not trust too confidently the remark in 'The Home Life of Wild Birds' that cats and other predaceous animals look upon the displaced nest as a trap and studiously avoid it, for other animals get accustomed to new conditions as do the birds, and no nest of young is ever absolutely safe. The net may be trusted to debar the cat, the most fatal and persistent of the many enemies of nestlings in the neighborhood of towns; it discourages the squirrel whose pickings and stealings are far from unimportant, and tends to deter the more suspicious Crow and Jay.

There is one advantage which this new method of studying birds affords which has not been adequately set forth—that of learning with precision the kind of food brought to nestlings. A skilled observer can stand in his tent and note every kind of fruit and every species of insect brought to the nest, excepting comparatively rare cases when the prey is mutilated or pulverized before it is served. Hitherto information on this head has been very meager because of the uncertainty of watching nesting birds at a distance. If, on the other hand, a young bird is killed in order to examine the contents of its stomach, the possibility of continued observation, which alone can yield much information of value, is at once destroyed. One can, indeed, take the young from the nest and place them in a cage suspended near the nesting bough, or cage the fledglings, and this is but another way of applying the method which uses parental instinct as a chain between old and young.

The nest with all its surroundings is of less importance to the adult birds than is commonly supposed, especially when the instinct to nourish and protect the young is at its height. During the past three summers I have studied forty nests of wild birds by the method of controlling the site, and using the tent for a blind, while the accidents, which came mainly from inexperience, could be counted on the fingers of one hand. When we think of the thousands of eggs taken each year by the misguided collectors, or the hundreds of birds shot to see what they have in their stomachs, this record seems fairly good, but it does not satisfy me. The death roll which science exacts is already large enough. In our studies of animal behavior it is life and not death which we wish to perpetuate.



FEMALE CHEBEC, OR LEAST FLYCATCHER, STANDING WITH WINGS SPREAD
OVER HER YOUNG TO WARD OFF THE HEAT

Lens, Zeiss Anastigmat, Series iia, $6\frac{1}{2}$ inch, speed $f/8$, stop 32, time 1-5 second, distance about 30 inches in full sun. Northfield, N. H. July 2, 1901

The Wood Thrush and the Whip-poor-will

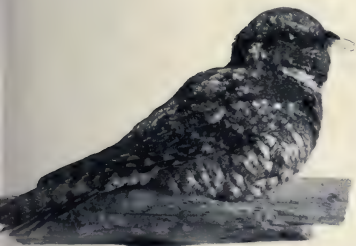
BY GARRETT NEWKIRK

When the faintest flush of morning
Overtints the distant hill,
 If you waken,
 If you listen,
You may hear the whip-poor-will.
Like an echo from the darkness,—
Strangely wild across the glen,
Sound the notes of his finale,
And the woods are still again.



Soon upon the dreamy silence
There will come a gentle trill,
Like the whisper of an organ,
Or the murmur
Of a rill,
And then a burst of music,
Swelling forth upon the air,
Till the melody of morning
Seems to come from everywhere.
A thrush, as if awakened by
The parting voice of night,
Gives forth a joyous welcome to
The coming of the light.

In early evening twilight
Again the wood thrush sings,
Like a voice of inspiration
With the melody of strings;



A song of joy ecstatic,
And a vesper hymn of praise,
For the glory of the summer
And the promise of the days.

And when his song is ended,
And all the world grows still,
As if but just awakened,
Calls again the whip-poor-will.

A Grebe Colony

BY GERARD A. ABBOTT

LAST spring, while on a collecting trip in North Dakota, the writer was encamped for a month on a narrow neck of land, surrounded on three sides by a chain of lakes. This point was covered with a small growth of timber, mostly poplars, and was an ideal spot for a camp. A strip of wild rice from fifty to one hundred and fifty yards wide bordered the lake at this place, and it is here that one of the largest Grebe colonies in the Devil's Lake region is located. Fifteen hundred birds composed this colony, two-thirds of which were Western Grebes, and the other five hundred consisted chiefly of American Eared Grebes, although there was an occasional Pied Grebe among them.

May 15 Western Grebes commenced laying, and June 1 breeding was at its height. Their nests were huge masses of decayed vegetation, floating among the wild rice (which at this time was eight feet high). Three to six, and occasionally seven and eight eggs were found in a nest.

The little Eared Grebes were breeding on the border of the Western Grebes' colony, and so numerous were they that it was impossible to enter the colony without brushing against some of their nests and disturbing the eggs. The Eared Grebes were about ten days later in laying, but their period of incubation was evidently shorter, for young birds were hatched equally as soon as those of the larger species.

When we slowly made our way into the colony (for the canes were very dense, and the water from two and one-half to four feet deep) the birds splashed on all sides of us, and the sound produced, as the voices of the Eared Grebes mingled with those of the larger species, was almost deafening. The piercing cries of the Eared Grebe were soon drowned by the shrill notes of their larger relatives, who kept up this clamor all night, renewing it at daylight with increased vigor.

Travelers crossing the country often hear strange sounds coming from the lakes a mile or more distant. Listen! it is a multitude of voices, and sounds not unlike the croaking of prairie frogs in some near-by marsh. Those are the notes of the Western Grebe, and when heard, especially at night, produce an effect unlike any other experienced by the ornithologist.

In such a colony more or less confusion always exists. When we approached the nests of the Western Grebe the big birds would sometimes allow us almost to touch them before making any effort to leave their nest. When thus disturbed, Western Grebes usually take to the open water, where they soon become scattered in all directions.

Eared Grebes were seldom seen on their nests, but when disturbed would remain in the vicinity of their eggs, constantly swimming by us in groups of three or four, and sometimes diving almost under our feet, so

that we could feel them hitting our boots as they moved about under the water.

Nests of the Eared Grebe, unlike those of the Western Grebe, are very rude affairs, scarcely large enough to hold the complement of eggs, which is usually from four to six, though seven and eight are frequently laid.

Owing to the high seas which prevail on these small lakes, the eggs are often washed from their nests. The Eared Grebes then deposit their eggs in the nests of the Western Grebe, and this accounts for eggs of both varieties being found in the same nest, which is often the case.

We found dead bodies of both species lying on, or near, their nests. They all bore signs of having been wounded, probably the result of an encounter arising from a dispute as to which was the rightful owner of the premises.

Emerging from the wild rice, we entered the brush and found ourselves on a narrow ridge overlooking a shallow, grassy slough. This is the home of Holboell's Grebe and the Pied Grebe, whose breeding habits are very similar. These two Grebes, in marked contrast to the preceding species, are quite retiring in their habits, especially Holboell's Grebe, which is a solitary bird.

When the young are hatched they are carried about on the backs of the old birds. When alarmed the old one disappears under water like a flash, coming to the surface fifty yards away, with the little fellows still clinging on for dear life and apparently none the worse for their ducking.

The Pied Grebe breeds early, laying from five to nine eggs in a small floating nest, composed of weeds, debris and mosses, mixed with mud. Their eggs are badly stained, usually more so than any of the other Grebes. I never saw this bird on its nest, although we frequently disturbed the sitting birds before they had time to take the usual precaution of covering their eggs. When thus disturbed Pied Grebes usually remain in the vicinity of their nest, sometimes venturing quite close to the intruder, their brown eyes sparkling like beads, when suddenly they give an alarming "cluck" and disappear with a splash. The nests of Holboell's, or the Red-necked Grebe, are loosely constructed of grass and aquatic plants, and usually contain five to eight eggs each. These birds are very shy and I never saw them near their nests, except when the young were hatching. They do not dive like the other members of the family, but seem to sink beneath the water, scarcely causing a ripple.

For Teachers and Students

How to Name the Birds

STUDIES OF THE FAMILIES OF PASSERES

BY FRANK M. CHAPMAN

FOURTH PAPER

FAMILY 7. TANAGERS. *Tanagridæ*.

Range.—Tanagers are characteristic birds of the American tropics. Only four of the some 350 known species regularly reach the United States, and but two of these are found east of the Mississippi.

Season.—Like most of our representatives of tropical families Tanagers are highly migratory; all our species winter south of the United States. The Scarlet Tanager, the only species found regularly north of Maryland, reaches the latitude of New York City about May 5 and remains until October 1.

Color.—Tanagers are remarkable for the brilliancy of their colors, to which, in connection with their abundance, is largely due the popular but



SCARLET TANAGER. Family *Tanagridæ*
One-third natural size

erroneous idea that the majority of tropical birds are brightly colored. As a rule the male is much more conspicuously colored than the female. On acquiring his full plumage—usually in his first spring—his color may not again vary appreciably, as with our Summer Tanager, or it may be changed after

breeding to one resembling that of the female, which is worn until the following spring when, by molt, the brighter plumage is regained, as with our Scarlet Tanager.

External Structure.—The typical Tanager is a Finch with a somewhat swollen bill, arched culmen, 'toothed' upper mandible and straight, not angulated, commissure. To draw a hard and fast line between the Finches and Sparrows, however, is impossible. Some systematists consider certain species Tanagers, while others regard them as Finches, but the members of the genus *Piranga* may readily be known by the characters of the bill above mentioned.

Appearance and Habits.—Tanagers are active, arboreal creatures and the males, at least, are generally conspicuous and easily observed.

Song.—As a family, Tanagers cannot be called musical. Many species have feeble and others sharp, discordant voices. Our Scarlet Tanager takes rather high rank among his kind as a singer, but, in my experience, the best singers of the genus are the members of the genus *Euponia* in which the song, though weak, is very sweet and varied.

FAMILY 8. SWALLOWS. *Hirundinidæ*.

Range.—Swallows are found nearly throughout the world, New Zealand alone of the larger land areas being without a representation of the group. Of the 80-odd known species some 32 inhabit the western hemisphere where they range from Greenland and Alaska to Patagonia, and ten of these occur in the United States.

Nine species have been recorded from east of the Mississippi, but two

Purple Martin

SWALLOWS. Family *Hirundinidæ*. (One-third natural size)

Cliff Swallow

Tree Swallow

Bank Swallow



of these are West Indian species which have been observed but once and that in the Tortugas at the extreme west end of the Florida Keys.

Season.—Coincident with the wide distribution and insect-eating habits Swallows are highly migratory. Only one species winters in the eastern United States; this, the Tree Swallow, is therefore, as might be expected, the first of its family to appear in the spring, reaching the latitude of New York City about April 5 and remaining until the latter half of October after all other members of its family have departed.

Color.—While varying somewhat widely in color Swallows, as a rule, agree in having their colors distributed in solid masses, and there is an absence of streaks and spots, each feather being usually of one color. The steel blue or green of our Barn or Tree Swallows is characteristic of many species.

External Structure.—Long pointed wings, small feet, short, weak, hooked bills and wide gaps cut back nearly, if not quite to the eyes, with a notched, and sometimes deeply forked tail are the obvious external characters of Swallows.

Appearance and Habits.—Swallows are birds of the air, feeding on the wing and doubtless covering every day more miles than some terrestrial species do in a season. Their power of flight is synonymous with speed and grace, but when on the ground they are correspondingly weak and awkward, the wings apparently having been developed at the expense of the feet.

Song.—While not considered song birds some species of Swallows—notably our Barn Swallow—have bright and cheery call notes or twittering songs which are often quite as pleasing as more ambitious vocal efforts.

FAMILY 9. WAXWINGS. *Ampelidæ*.

Range.—This family contains only the Japanese Waxwing of Japan and eastern Siberia, the Bohemian Waxwing, which inhabits the northern parts of both hemispheres, and our Cedar Waxwing, which ranges over the greater part of North America.

Season.—The Cedar Waxwing is a permanent resident from Virginia northward, but of irregular occurrence in the northern portion of its range during the winter. The Bohemian Waxwing is a very rare winter visitant.

Color.—The Waxwings are rich grayish brown, and the adults are distinguished by having sealing-wax-like tips on the secondaries and yellow bands at the end of the tail.

External Structure.—With the Waxwings the wings are rather long and pointed, the bill short and rather stout; the head is crested, and the feathers of the lores are black and velvety.

Appearance and Habits.—Except when nesting, Waxwings are usually found in small flocks the members of which seem to be animated by one

mind. They perch closely together, sitting quietly, but raising and lowering the crest interrogatively. At certain seasons, usually late summer, they are active as Flycatchers, and may then be seen darting out into the air and swinging back to the starting point.

Song.—Our Cedar Waxwing is practically songless. A wheezy whistle, usually uttered as the birds take flight, is its principal note.

FAMILY 10. SHRIKES. *Laniidæ*.

Range.—Only two of the some 200 species belonging to this family are found in America, its remaining representatives being distributed over the greater part of the eastern hemisphere.

Season.—Our winter Shrike is the Northern or Butcher Bird which comes in October and remains until spring. In the summer we may look



CEDAR WAXWING. Family *Ampelidæ*
One-third natural size

for the Loggerhead, a bird of peculiar distribution which breeds in the South Atlantic States and the Mississippi Valley and eastward through central and northern New York to northern New England, but is found only as a migrant from southern New England to Virginia.

Color.—Our two Shrikes are much alike in color, being grayish above and

whitish below, but the Butcher Bird has the under parts generally barred with black and the lores grayish.

External Structure.—A strongly hooked, hawklike bill is the chief characteristic of the true Shrikes and is clearly related to their raptorial habits. The feet, however, are more passerine in form and evidently lack sufficient



NORTHERN SHRIKE. Family *Laniidae*
One-third natural size

strength to enable the bird to hold its prey while it is being dissected. Hence the habit of impaling. See BIRD-LORE II, 195, where, in describing the actions of a captive Northern Shrike, Mrs. Webster clearly shows that the bird requires some object on which to impale its food before devouring it.

Appearance and Habits.—Shrikes are solitary and never abundant, but are easily observed because of their habit of taking a conspicuous perch. The flight is direct and generally concluded by an abrupt upward swing as the bird takes its perch. Their prey is generally captured by a flight straight from the perch and is sometimes impaled on a thorn, sharp twig or barbed wire, or hung in a crotch.

Song.—The Butcher Bird has a decidedly sweet, varied song of not great volume; the Loggerhead is an equally ambitious but less successful vocalist.



What Bird is This?

Field Description.—Length 5.50 in. Crown streaked with black and greenish gray and with some partly concealed chestnut; back streaked black and greenish gray; white wing-bars, and white blotches on tail; below buffy white with traces of chestnut chiefly along the sides.

NOTE.—Each number of BIRD-LORE will contain a photograph, from specimens in the American Museum of Natural History, of some comparatively little-known bird, or bird in obscure plumage, the name of which will be withheld until the succeeding number of the magazine, it being believed that this method of arousing the student's curiosity will result in impressing the bird's characters on his mind far more strongly than if its name were given with the picture.

The species figured in April is Brewster's Warbler, a supposed hybrid between the Golden-winged and Blue-winged Warblers, of which over one hundred specimens are known.

The Young Observers' Prize Contest

Circumstances prevent a report on the essays which have been received on the birds of February and March, but the prize winner will be announced in our next issue.

In the meantime we will remind those who are competing for the prize offered for the best notes on the birds of April and May that their essays should be sent to the editor by June 15. We also now offer a third prize of a book or books to the value of two dollars for the best seven- or eight- hundred-word article on the birds of June and July.

For Young Observers

A Birds' Bath

LAST summer I dug a little pond, about two feet wide, five feet long and two or three inches deep, back of our house. Into this I let the hose flow very slightly, the surplus water being carried by a little trench which ran from the pond down into the woods where the water sank into the earth. All along the trench and pond weeds sprang up and, bending over, kept the place cool so that it offered a double attraction.

The next day I made the pond about four times as big, and after that it was as great an attraction to me as to the birds, and I would advise any one who likes the birds around them to put out at least a shallow pan of water which is changed four or five times a day.

The elms and lindens in our neighborhood had been eaten terribly by worms, but soon after I made the pond the worms began to decrease, as the Orioles and Grosbeaks would go from the pond right into the trees and there take their meals, making, as Mrs. Wright would say, 'very good Citizen Birds, paying their taxes every day.'—EDMUND B. DIBBLE, St. Paul, Minn.

The Incredulous Veery

Two hunters chanced one day to meet
Near by a thicket wood;
They paused each other there to greet,
Both in a playful mood.
Said one, "I had to wade a stream,
Now, this you must not doubt,
And when I reached the other shore
My boots were full of trout."

Whew! cried a Veery perched in view
To hear if what they said were true. *Whew!!*

The other's whit was now well whet.
Said he, "Let me narrate:
I bought three hundred traps and set
For fur both small and great;
Now, when next morning came, behold,
Each trap contained a skin;
And other disappointed game
Stood waiting to get in."

The astonished Veery whistled, *Whew!*
I hardly think that story true. *Whew!!!*

—FLORENCE A. VAN SANT.

Notes from Field and Study

A Home in a Cellar

The Phoebe of which I am about to write was first observed on April 12. Seven or eight days later its supposed mate arrived, and it was amusing to see them as they flew about together peering and examining different places near the house. Two or three times I startled the pair by opening a door which leads from the kitchen to a back room or shed.

In a week's time, after the arrival of the mate, the building site was chosen, a small board projecting from a beam above a window inside the cellar. Day after day they brought grass, moss and mud and an occasional feather until the structure was complete.

We were in the habit of closing and locking the cellar door as night drew near; but now that our feathered friends had constructed their domicile in the cellar, we left it open.

On May 4 there was one pinkish white egg in the nest. The next day another was laid, and so on until, on May 7, there were four eggs. Then the intervention of one day, and on May 9 there were five eggs in the nest to be hatched. Then the female was confined more or less to the nest.

After fourteen days there were two naked birds; a few hours later, three; the next morning four, and later that morning, five. The parents were kept very busy bringing insects and bugs to appease the hunger of the five little ones, which were soon clothed in a suit of feathers resembling their parents', and also were fast filling their nest. I thought that it was nearly time for them to fly, when a catastrophe befell them.

One morning, fourteen days after their birth, I went to make my customary call, and not a young bird was to be seen and the nest was torn to pieces. The poor parents flew about crying piteously. I did not know how to account for the accident unless some cat was the depredator.

Any other bird would not have stayed in the vicinity after such a mishap. But the Phoebe, whose great characteristic is perseverance, did not allow such a calamity to utterly discourage her from rearing a brood.

Two days were taken for mourning, and on June 10 they started with renewed vigor to build over a shelf at a short distance from the old site. They used what was left of the first nest and brought fresh material, until in four days a new one was completed and one egg was deposited therein. By June 18, another set of five eggs had been laid, and incubation began once again.

By this time the mother bird had become acquainted with me, and ate stunned insects which I had placed on the edge of the nest, while I stood near by.

Another two weeks passed, and July 1 found the eggs hatching. They one and all came at their respective time. The parents had much the same duties to perform as with the previous brood.

Two weeks and five days elapsed, during which time the young had grown large and become feathered. Then came an important epoch in their lives, the day for flying.

After stretching and trying its wings, the first-born was ready to leave its home and with the encouraging calls of its parents flew from the nest. It reached a clothes-line a few yards from the door, where it sat balancing itself and jerking its queer short tail. Before nightfall its parents had induced it to fly a little farther to a pear tree. Three more birds had similar experiences.

It took more coaxing and advising to get the youngest away from home. While sitting sleepily on the clothes-line, a fly or some insect chanced to pass near his head. Very suddenly and unexpectedly he leaped into the air, caught the insect, but was unable to regain his alighting place and went fluttering to the ground. Luckily, no cat was near and his parents prompted him to fly into a pear tree. There he sat chatting very contentedly at regaining a perch.

So I watched this family until cooler days told them that it was time to go southward.
—E. MARION WHITTEN, *Bedford, Mass.*

Notes on the Golden-winged Warbler

Books tell us that the Golden-winged Warbler is a rare bird or only locally common. I have been fortunate in lighting upon one of the chosen localities of this little-known bird, for it is really abundant at Rhinebeck, N. Y., where I have been spending the past summer.

On May 12 it was first seen, and soon after the song of the male was learned. It

them, they were usually the commonest birds about. I tried to estimate the number of pairs in this wood. Although it was impossible to ascertain whether the same birds were seen more than once, I feel sure that I saw at least five separate adult males, but probably ten would be nearer the correct number of pairs that inhabited the wood. Toward the end of June I resolved to find a nest if possible; but though I searched for several days I was unsuccessful. More than once I hid myself to see if a female would return to her nest. In such cases I usually saw her at last feed a fully-fledged young bird—an operation which was accompanied by much *dzeeing*.

During July the birds wandered about in families. They came even to the house and filled the locust trees round about. From the seventh to the nineteenth of the month (inclusive), the species was seen every day in the course of my ordinary rambles, without once being specially searched for. Indeed it was the commonest of the Warblers at that time.

On July 28, long after I had given up all hope of finding a Golden-winged Warbler's nest, I was walking in the woods mentioned above, when my ear was attracted by an unfamiliar Warbler song. It consisted always of eight notes—*cher-swee-se-se-se-se-se-chee*, with a fall on the last note; the *se-se-se* notes were uttered very fast and the initial *chee* was hardly audible. The mysterious voice led me to a small open space in the midst of a thicket, where a bird suddenly flew up from my feet, exposing a neat little nest with two eggs. One egg was pyriform with very minute specks, the other oval with a few red blotches at the larger end. It was too late that evening to identify either the nest or the mysterious singer.

The next morning I only had time hurriedly to photograph the nest. I found that the pyriform egg had hatched. The other was clear and bad. I did not get a glimpse of the owner of the nest, but was fortunate in discovering the unknown song of the previous evening to spring from a male Golden-winged Warbler. Thus, I had proof that this Warbler, like some



NEST OF GOLDEN-WINGED WARBLER

is a well-defined song of three or four syllables—*whee-zee-zee-zee* (the first note higher)—and in tone reminds one of the *whe-ee* of the Blue-winged Warbler. This song was heard frequently until about July 1, after which date I heard only the incessant call-notes of the birds—*dzee, dzee, dzee*. I am inclined to believe that these notes may have been mistaken by some writers for the "lazy and unaccented" song of the bird.

Though frequently seen elsewhere, these Warblers were especially numerous in a certain patch of woods, in the lower end of which, where the marshy ground attracted

others, develops a new song late in the season.

On the third day the bird left her nest with the same precipitation as at the other visits, making it entirely impossible to identify her. I therefore hid myself in the thicket within sight of the nest. After about ten minutes a female Golden-winged Warbler came creeping suspiciously toward me through the branches, uttering low scold notes. Perceiving that I was discovered, I rose to change my hiding-place, and, as I passed the nest, was most grieved to find that the young bird was dead—overcome by the heat of the sun, for the nest was very exposed. (I was careful not to cut away a single leaf in photographing, and therefore, do not feel responsible for the young bird's death.) The female soon deserted her bad egg, and thus was cut short an acquaintance which I had hoped would prove most interesting.

Although I never identified the bird actually at the nest—indeed I have never met a bird so timid—I feel justified in calling the nest that of a Golden-winged Warbler, for the male was always close by, I saw the female, and there were no other birds about to which it could possibly have belonged.

Later, I collected the nest and the bad egg. The nest, which is of the usual Warbler style, was in a low bramble about four inches from the ground. It is composed of grasses with a few dead leaves, the finer material being used as a lining.—C. G. ABBOTT, *New York City*.

A Talking Magpie

It is of course well known that quite a number of birds outside of the great group of Parrots can be taught to speak a few words with more or less distinctness. Of the relatively short list of such species the Magpie may, perhaps, be said to stand at the top. It is, for instance, not an uncommon sight in western towns within the range of the Magpie to see caged specimens that can speak a few words quite plainly, but I have never seen one that could compare, in this respect, with one it was my fortune to observe during the past summer. This

Magpie was the property of the station agent of the D. & R. G. Railway, a Mr. Martin, at Mancos, Colorado. The bird occupied a large cage, usually kept on the station platform, and was especially 'talkative' at train time, the cage then being the center of an interested group of people. The bird was appropriately named 'Maggie.' The exhibition would start usually in the following order, each word being uttered with astonishing distinctness, and with perfect human inflection: "Pretty Maggie," "Pretty Maggie;" "Maggie's all right." Then would come the information: "Martin's a crank," "Martin's a crank," followed by the emphatic statement, "Martin's drunk," "Martin's drunk!" After this burst of confidence would come the heartiest, jolliest laugh one could imagine. It was said to be an exact imitation of the laugh of the wife of the agent. And, after the manner of certain traditional Parrots, Maggie had been taught a number of words and short phrases not to be found in polite literature! Altogether it was, it seemed to me, an exhibition of a remarkable character.—F. H. KNOWLTON, *Washington, D. C.*

The Great Auk in Florida

The daily press has already published some notice of the astonishing discovery by Prof. W. S. Blatchley, State Geologist of Indiana, of a Great Auk's humerus in a shell mound at Ormond, on the east coast of Florida. This bone was identified by Prof. O. P. Hay, of the American Museum of Natural History, after comparison with five Great Auk humeri which were collected by Mr. F. A. Lucas on Funk Island and subsequently presented to the American Museum by the U. S. National Museum.

The newspaper accounts above referred to attracted the attention of Prof. C. H. Hitchcock, who chanced to be staying at Ormond, and after communicating with Professor Hay to learn the exact location of the mound Professor Blatchley had visited, Professor Hitchcock made further excavations and succeeded in securing additional Great Auk bones.

The subject will be treated at length by Professor Hay in 'The Auk' for July.—F.M.C.

Book News and Reviews

NATURE STUDY AND LIFE. By CLIFTON F. HODGE, Ph.D. Boston, U. S. A., and London. Ginn & Co., 1902. 12mo. xvi + 514 pages, numerous ill.

Few men are better fitted to produce the ideal book on nature study than the editor of this work. A born nature-lover of wide sympathies and interests, he is at the same time a trained educator and scientist. Add to these an intense desire to lead others to the sources in nature whence he has derived so much pleasure and mental and moral profit and it is evident that circumstances have combined for the production of a book of unusual merit and originality.

Believing that "interest in life forms precedes that in inanimate forms," Professor Hodge has omitted all reference to geological, astronomical and meteorological phenomena and thus has more space to devote to his true subject—life.

Professor Hodge would have the contact between nature and the nature student intimate and personal. Domesticated animals, domesticated plants, pet animals, pet plants, possess, when our associations with them are properly developed, an inestimable influence in our mental and moral growth. "The pet animal," he says, "is thus for the child, as it was for the race, the key to the door into knowledge and dominion over all animal life."

Professor Hodge's methods have stood the test of years of trial in the schools of Worcester and are therefore eminently practical. Insect, plant, and animal life, both wild and in domestication, are treated very fully and in so interesting and original a manner that this book appeals not only to teachers but to every nature-lover.—F. M. C.

HEZEKIAH'S WIVES. By LILLIE HAMILTON FRENCH. Boston and New York. Houghton, Mifflin & Co. 1902. 16mo. xi + 116 pages.

How a Canary won the affections of a person who had railed "against the sin of keeping birds in a house," is here recounted

with a degree of sympathy, close observation, and literary skill which make this little volume readable from cover to cover. The story of Hezekiah's life and of the various mates which were secured for him may well be used to illustrate the truth of Professor Hodge's claims concerning the educational and ethical value of keeping pets, and we should think that no owner of a Canary could read this volume without feeling an increased regard for her charge.—F. M. C.

ANNOTATED LIST OF THE BIRDS OF OREGON. By A. R. WOODCOCK. Bull. No. 68. Oregon Agricultural Experiment Station, Corvallis, Oregon. 1902. 8vo. 117 pages.

While it is admitted that because of insufficient data this list doubtless contains errors and omissions, and while from a strictly scientific point of view it might have been deemed desirable for its author to present only the results of his own studies, we believe that so far as the advancement of a popular interest in bird study in Oregon is concerned he has followed by far the best course in presenting this list of the birds of the entire state. About 325 species are included, and the annotations under each one give its manner of occurrence at several localities. As the first work of the kind this will prove a most convenient working hand list for use in subsequent investigation, and its author should receive the thanks of his fellow-workers for his labors in their behalf.—F. M. C.

SUMMER BIRDS OF FLATHEAD LAKE. By P. M. SILLOWAY. Prepared at the University of Montana Biological Station, 1901. 8vo., pp. 83; pl. 16.

The notes here presented are based on observations made between June 14 and August 30, 1900, and in June and July, 1901. The various localities visited are described, oölogical notes on 24 species are given at some length and are followed by a well-annotated list of some 126 species of birds

observed in the Flathead Lake, Montana region.

Those who are familiar with the author's studies of bird-life know that he is a close observer and an excellent describer of birds' habits, and much of the matter included in this paper forms a most acceptable contribution to our knowledge of the life-histories of the species treated.—F. M. C.

The Ornithological Magazines

THE OSPREY.—Judging from the first three numbers, the current volume of 'The Osprey,' with its new type, full line pages, better paper, more harmonious cover, carefully printed plates, and increased size, is surely a vast improvement over previous ones in mechanical make-up, and a great stride in the direction of satisfactory book-making. We are glad to see that Doctor Gill has commenced the long-promised work on the 'General History of Birds', which was begun as a supplement to the January issue, and which will be continued in that form in subsequent numbers, with independent pagination from the main part of the magazine, so that on completion of the work it may be bound separately. The biographical sketches of Sir John Richardson and John Cassin by the editor, and of Prof. Alfred Newton by Dr. Shuffeldt, are of special interest, and we trust that a goodly number of the earlier ornithologists will receive due attention. D. A. Cohen gives us a good account of the California Jay and W. C. Kendall has two papers in 'Random Maine Bird Notes,' referring mainly to the marked decrease of various birds, and the habits of grouse. The following papers, together with a number of shorter notes, are of interest: William Palmer, 'August Birds of Stony Man Mountain, Virginia;' M. S. Ray, 'Rambles about My Old Home;' F. H. Knowlton, 'The Mockingbird at Home;' W. R. Maxon, 'Notes on some Yellow-throated Vireos' Nests;' W. E. Safford, 'Birds of the Marianne Islands;' P. M. Silloway, 'Notes on McCown's Longspur in Montana;' and B. S. Bowdish on the Carib Grassquet.' We were a little surprised to see in the review of Professor

Macoun's 'Catalogue of Canadian Birds' a statement by the reviewer that the Glaucous-winged Gull and not the Point Barrow Gull, is abundant about the Pribilof Islands. In the summer of 1899 the only large Gull we positively identified about this group of islands, as well as in the vicinity of St. Matthew and St. Lawrence islands, was the Point Barrow Gull.—A. K. F.

WILSON BULLETIN.—In 'Wilson Bulletin' No. 36, Lynds Jones gives an account of 'All Day with the Birds' in Lorain county, Ohio, where on May 9, 1901, during the interval between 4 A. M. and 2.30 P. M., he and his friend W. L. Dawson identified 109 species—a feat hard to surpass even in the few most favorable localities. On one other occasion (May 8, 1899), they recorded 112 species, which is, as far as the reviewer knows, the largest list for any one day. In the 'Passing of the Bird,' R. W. Smith makes some pertinent remarks on the decrease of birds in the south—a section where game laws are badly needed and where apathy allows even such a bird as the Woodcock to remain unprotected during the breeding season.

F. L. Burns has devoted much time and energy during the past three seasons, at Berwyn, Pa., to making a careful count of the breeding birds occupying a certain diversified piece of ground covering about a square mile. The results are well set forth in 'Wilson Bulletin' No. 37, under the title of 'A Sectional Bird Census,' and even a cursory glance shows that his self-imposed task must have been a time-consuming one. After carefully checking up the work of the three independent seasons, he found that 62 species, representing 1,388 individuals, inhabited the section—a little over a pair of birds to the acre. The Field Sparrows, Red-eyed Vireos, Ovenbirds, Chipping Sparrows, Robins and Catbirds were most abundant, and the Cooper's Hawk and English Sparrows were the only injurious ones. We regret to see that in enumerating the enemies of the birds he failed to call direct attention to the cat, which without doubt destroys as many birds as all other animate agencies combined.

With No. 38—the beginning of a new volume—Lynds Jones again takes the editorship of the 'Bulletin,' which with the new cover, fresh type, and general rearrangement approaches more closely the modern magazine. Besides a number of shorter articles, B. T. Gault gives an interesting account on 'Food Habits of the Wilson Snipe,' and N. Hollister's 'Notes on the Winter Birds of Arkansas.' Very little has he written about the birds of the state and consequently reliable lists are very welcome. We cannot help thinking that the Brewer's Blackbirds mentioned really were Bronze Grackles.—A. K. F.

THE CONDOR.—The January number of 'The Condor' opens with an illustrated article on 'A Trip to Morro Lake,' by Walter K. Fisher, containing an interesting account of the desert region at the foot of the east slope of the Sierra Nevada, and of birds observed there during the summer of 1901. Williams contributes the first installment of 'A Study of Bird Songs,' and Gilman gives an account of the habits of the "Crissal Thrasher in California." Beck's article on "The Wingless Cormorant of the Galapagos," although brief, merits special mention since it contains what purports to be the first published half-tone of the remarkable Cormorant (*Phalacrocorax harisi*), which has thus far been found only about Narborough Island. Among the important short notes are Stephens' record of the occurrence of Lawrence's Goldfinch in New Mexico just east of the continental divide; Maillard's records of two specimens the Saw-Whet Owl (*Nyctala*), in Marion county, and Ridgway's record of the Elf Owl (*Micropallas whitneyi*) in Kern county, Cal. Grinnell corrects a few errors in identification which have crept into some of his publications on west coast birds—an excellent idea which should commend itself to others, since mistakes in identification are likely to be made by almost any one, and when once published are apt to multiply erroneous records unless properly corrected.

This number, the first of the fourth volume, is printed on heavier paper and presents a greatly improved appearance in its

new cover. There is, however, still room for improvement in the reproduction of illustrations and in certain typographical features. The use of the same bold-faced type for headings and for lists of species gives the final page of the first paper the appearance of an advertisement, and the juxtaposition of single and double column matter produces anything but a pleasing effect. The single column may be necessary to accommodate illustrations in the case of longer articles, but the reason for its use for 'general notes' and not for other departments is not evident.

Three new rules for the preparation of manuscript have been adopted: (1) omission of the possessive form in common names of bird; (2) use of single i in specific names formed from personal names—*Nuttalli*, not *Nuttallii*; (3) use of lower case letters for common names, except in a few cases. The first and last rules are purely matters of taste, but the second involves a modification of Canon XL of the A. O. U. code of nomenclature, which requires the original orthography of a name to be rigidly preserved. Whatever be the advantage of convenience and uniformity, the fact remains that this change is an emendation. The same arguments could be used with still greater force for uniform spelling of such names as *cærulea*, *hiemalis*, *pennsylvanica*, etc., but experience has shown that confusion instead of convenience result from change and that emendation for any purpose in one class of cases is the entering wedge which may lead to trouble in others.

Book News

'EVERYBODY'S MAGAZINE' has published a notable series of articles on water birds by H. K. Job, illustrated by the author's admirable photographs from nature. It is satisfactory to learn that these articles are later to appear in book form from the press of Doubleday, Page & Company.

'AMERICAN ORNITHOLOGY' is presenting colored pictures designed to illustrate the distinguishing color-marks of birds, in which surprisingly satisfactory results are obtained by the use of only one or two colors.

Bird-Lore

A Bi-monthly Magazine

Devoted to the Study and Protection of Birds

OFFICIAL ORGAN OF THE AUDUBON SOCIETIES

Edited by FRANK M. CHAPMAN

Published by THE MACMILLAN COMPANY

Vol. IV Published June 1, 1902 No. 3

SUBSCRIPTION RATES

Price in the United States, Canada, and Mexico twenty cents a number, one dollar a year, postage paid.

Subscriptions may be sent to the Publishers, at Harrisburg, Pennsylvania, or 66 Fifth avenue, New York City.

Price in all countries in the International Postal Union, twenty-five cents a number, one dollar and a quarter a year, postage paid. Foreign agents, MACMILLAN AND COMPANY, LTD., London.

COPYRIGHTED, 1902, BY FRANK M. CHAPMAN.

Bird-Lore's Motto:

A Bird in the Bush is Worth Two in the Hand.

We published this month an article by Prof. Francis H. Herrick, whose book 'The Home Life of Wild Birds, A New Method of the Study and Photography of Birds'—now in its second edition—has aroused much interest among bird students.

Professor Herrick's "new method" consists largely in what he has termed "control of the nesting site," that is, when a nest is so situated that it cannot be photographed to advantage, he removes it, with the limb on which it is placed, and erects it within a few feet of a tent designed to conceal himself and his camera. "This sudden displacement of the nesting bough," Professor Herrick remarks, "is of no special importance to either old or young, provided certain precautions are taken." "With some species," he adds, "it is possible to make the necessary change without evil consequences when there are eggs in the nest; with others we must wait until the young are from four to nine days old. . . . If we know little of the habits of the birds in question it is safest to wait until the seventh to the ninth day after the young are hatched." . . . In effect, however, this method of bird study and bird photography appears to be largely limited to the period covering the latter part of the nest-life of the young. At this time

the parental instinct is sufficiently strong to bring the adult bird to the nest in spite of its changed surroundings. "If very shy," Professor Herrick writes, "like most Cat-birds, they will sometimes skirmish about the tent for two hours or more before touching the nest. The ice is usually broken, however, in from twenty minutes to an hour. . . ."

There is clearly much to say both for and against the method thus briefly described. That its practice permits one readily to secure an unlimited number of photographs of young birds and their parents at the nest and to observe their habits at short range, Professor Herrick's illustrations and test prove beyond question; that it may be attended by fatal results to the young is equally undeniable, as Professor Herrick frankly admits.

In cutting the knot of the difficulties imposed by situation, nest-life photography and study is so greatly simplified that little need be said in favor of this manner of controlling the nesting site. We turn, therefore, to its objections. These are: (1) Change in the character of the nest surroundings, producing artificial conditions; (2) possible death of young following; (a) exposure to elements; (b) lack of food while the parents are becoming accustomed to the nest in its new situation; (c) exposure to attack from bird enemies.

Premising that Professor Herrick's method is restricted almost entirely to the habits of young birds and their parents at the nest after the former are several days old, and not to a record of nesting site, nest-building, or incubation, we see no reason to doubt that when the parents become accustomed to their new surroundings the life of the nest progresses as before. It is true that the pictures secured do not possess the charm and interest attached to those made under wholly natural conditions where the skill and ingenuity of the photographer add not a little to the pleasure with which we regard the results of his labors. This, however, is not the scientific point of view, and it should be clearly understood that Professor Herrick's studies are eminently scientific. His aim has not been to secure pleasing

pictures of bird-life, but accurate records of nest-life to illustrate his exact, patient, skilled observations of the habits of old and young.

As for the second objection, the dangers to which the young birds are exposed through the moving of the nest, it is undoubtedly serious. We have never tried Professor Herrick's plan of moving the nest to a tent, but have placed an artificial bower near the nest, and know from experience how quickly birds desert their homes during incubation and, even after the young are born, how loth they are to return to the nest when they are alarmed by some strange object near it. Most young birds require food at frequent intervals, and when they are deprived of it even for a comparatively short period, fatal results may follow. In moving the nest the possibility of death from this cause is increased, and it may become necessary, Professor Herrick states, "to feed the young in the nest and to suspend operations until the next day." This, however, is a matter of less importance than exposure to sun and storm, which follows the taking of the nest and young from the shade. Professor Herrick says, "Young birds from one to five days old cannot, as a rule, stand excessive heat. Even when fed and brooded they will sometimes succumb, and here lies the serious danger to be guarded against;" and adds, "it is better to leave the birds to themselves if it promises to be excessively hot or windy."

As for the danger from bird enemies attendant on removing the nest from the place of concealment and placing it in a conspicuous position, Professor Herrick finds that "predaceous animals of all kinds seem to avoid such nests as if they were new devices to entrap or slay them," and the only depredator whom he fears is "the irresponsible or malicious small boy." That cats and the bird-killing Hawks should not take prey which is apparently at their mercy is certainly surprising, and we await further information on this point before accepting Professor Herrick's experience as conclusive.

In any event, it is clear enough that the removal of the nest to an exposed place is

attended by great danger to its contents, and should be undertaken only with the utmost care by a person competent to take advantage of the resulting opportunity to photograph and study its life, with due regard to the welfare of the young.

That the end justifies the means, no one who realizes the value of Professor Herrick's work will deny, and when he tells us that in studying, forty nests of wild birds, the accidents, "which came mainly from inexperience, could be counted on the fingers of one hand," we are bound to admit that under his control his method has been not only successful but unobjectionable. But, as Mr. Hoffmann remarked, in discussing this subject in BIRD-LORE for October last, "it is emphatically not a method to be recommended to the general public."

WE have received a circular announcing that the fourth session of the Alstead School of Natural History will, as heretofore, be held at Alstead Centre, N. H., during five weeks of the coming summer. Mr. Ralph Hoffmann will conduct the class in ornithology. Particulars of enrolment may be learned of W. L. W. Field, Milton, Mass.

We have also received an announcement of a new Nature Study School, organized under the auspices of the Massachusetts Institute of Technology, to be held at Sharon, Mass., during the four weeks following July 9. The school will be under the direction of Dr. G. W. Field, of the Institute of Technology, whose wide experience in nature-study teaching insures the success of this wholly admirable undertaking.

Dr. Field will be assisted by Mr. E. A. Winslow, who acts as secretary of the school, and may be addressed at the Massachusetts Institute of Technology, Prof. G. H. Barton, Mr. J. G. Jack, Mr. H. A. Kirkland, Mr. Wm. Lyman Underwood, and other well-known teachers.

Mr. Underwood's coöperation is an assurance that the subject of animal photography will receive particular attention, and the opportunity for instruction in this branch of work is therefore unusual.

The Audubon Societies

*"You cannot with a scalpel find the poet's soul,
Nor yet the wild bird's song."*

Edited by MRS. MABEL OSGOOD WRIGHT (President of the Audubon Society of the State of Connecticut), Fairfield, Conn., to whom all communications relating to the work of the Audubon and other Bird Protective Societies should be addressed. Reports, etc., designed for this department should be sent at least one month prior to the date of publication.

DIRECTORY OF STATE AUDUBON SOCIETIES

With names and addresses of their Secretaries

Maine.....	A. H. NORTON, Westbrook.
New Hampshire.....	MRS. F. W. BATCHELDER, Manchester.
Vermont.....	MRS. FLETCHER K. BARROWS, Brattleboro.
Massachusetts.....	MISS HARRIET E. RICHARDS, care Boston Society of Natural History, Boston.
Rhode Island.....	MISS HARRIET C. RICHARDS, 48 Lloyd ave., Providence.
Connecticut.....	MRS. WILLIAM BROWN GLOVER, Fairfield.
New York.....	MISS EMMA H. LOCKWOOD, 243 West Seventy-fifth street, New York City.
New Jersey.....	MISS JULIA SCRIBNER, 510 E. Front street, Plainfield, N. J.
Pennsylvania.....	MRS. EDWARD ROBINS, 114 South Twenty-first street, Philadelphia.
Delaware.....	MRS. WM. S. HILLES, Delamore Place, Wilmington.
Maryland.....	MISS ANNE WESTON WHITNEY, 715 St. Paul street, Baltimore.
District of Columbia.....	MRS. JOHN DEWHURST PATTEN, 2212 R street, Washington.
Virginia.....	MRS. FREDERICK E. TOWN, Glencarlyn.
North Carolina.....	MISS ANNIE PETTY, Greensboro.
South Carolina.....	MISS S. A. SMYTH, Legare street, Charleston.
Florida.....	MRS. I. VANDERPOOL, Maitland.
Missouri.....	AUGUST REESE, 2516 North Fourteenth street, St. Louis.
Ohio.....	MRS. D. Z. MCCLELLAND, 5265 Eastern ave., Cincinnati.
Indiana.....	W. W. WOOLEN, Indianapolis.
Illinois.....	MISS MARY DRUMMOND, 208 West street, Wheaton.
Iowa.....	MRS. L. E. FELT, Keokuk.
Wisconsin.....	MRS. RUBEN G. THWAITES, 260 Langdon street, Madison.
Minnesota.....	MISS SARAH L. PUTNAM, 125 Inglehart street, St. Paul.
Wyoming.....	MRS. N. R. DAVIS, Cheyenne.
Kentucky.....	INGRAM CROCKETT, Henderson.
Tennessee.....	MRS. C. C. CONNER, Ripley.
California.....	MRS. GEORGE S. GAY, Redlands.

WORK!

And after that more Work

The first meeting of the National Committee of the State Audubon Societies, of which a detailed account is elsewhere given, was practically a two-sessioned conjugation of the verb to work, with many variations not found in orthodox grammars. The imperative mood, being the favorite, was only kept within bounds by the conditional, which insisted upon asking the most withering questions regarding ways and means.

As far as the educational side of bird protection goes, most of the state societies already formed are amply able to hold their own and may be trusted to watch the laws as well as to gradually develop their vari-

ous plans, all of which aim to plant in the rising generation a greater respect for animal life. Unfortunately this is not enough.

The states and territories which have either dormant societies or none and lax laws are in the majority. In these places the birds partially protected elsewhere are destroyed in the migrations or in the breeding season, as in the case of the northwestern regions, such as Alaska.

While it is to the interest of all societies to have protection extended, it is often out of their power as separate bodies to push the interest beyond state limits or for their secretaries to answer the questions and supply drafts of by-laws for those desiring legislative information, or hints for the formation of new societies. Be it here understood that many of the most active of

these secretaries are women with family cares, who conduct a correspondence that amounts to a business wholly without pay.

The editors of BIRD-LORE cheerfully answer all like requests so far as possible, but there is promotive (I would use the word missionary but that it covers so many indiscretions) work to be done in this wide field both by voice and pen that can only be accomplished by the undivided attention of a discreet man who will not only make it his business to keep informed of all local and general work, but also when possible either attend the meetings of game protective associations, granges, horticultural societies or spur some local representative to do so, who in short must act as the secretary of the National Committee.

So far the imperative mood carried the day—then came the conditional, the payment of this important officer?

This must be done by the joint contributions of the state societies *and their friends*. If each society will pledge itself for one year from July 1 to give a certain sum down or if more convenient in quarterly payments, this most important experiment may, at least, have a fair trial; and its efficiency can be proven in no other way.

Of course many societies are themselves struggling and hampered for funds, but the tonic effect upon the whole cause will in itself be retroactive in no small degree. "There are so many calls for money," is the constant plea of those who are approached, "and surely human needs should be considered before those of animals." Certainly they should, and the protection of what is elevating and wholesomely beautiful is one of the most crying *human needs* of today. What is left for humanity when there is no convenient retreat from where indoors and city and self are fettered together.

In today's push and scramble humanity must everywhere have refuge where Heart of Man may realize that however much he may have changed, the fowls of the air and the flowers of the field are as of old, and that Heart of Nature still lives and is working out the plan made him by Heart of God.

Give! give that we may thus work for the dawn of a new day and banish from this peerless land the lowering of a night wherein no call of migrant birds shall drop from above.—M. O. W.

Minutes of the First Meeting of the National Committee of the Audubon Societies of the United States

Pursuant to a resolution passed at a conference of the Audubon Societies held at the American Museum of Natural History, New York City, on November 14, 1901, Mrs. H. T. Grant, Jr., secretary of the Rhode Island Society, was appointed temporary secretary and was requested to correspond with each Audubon Society then organized or which might be organized prior to April, 1902, and ask them to send one delegate to a meeting of the Committee of the National Audubon Societies, and also to designate the time and place when and where such a meeting could be held, the object of the meeting being for the purpose of organizing a Ways and Means Committee and discussion of the scope of the committee's field of action.

In response to this call the first meeting of the delegates was held in New York City, on Friday morning, April 4, in the small assembly room of the American Museum of Natural History, the use of which had been generously given by the museum authorities.

The meeting was called to order at 10 A. M., delegates from the following state societies being present: Vermont, Massachusetts, Rhode Island, Connecticut, District of Columbia, Virginia, Iowa and New York.

Mr. Frank M. Chapman, the chairman of the conference held in November, 1901, temporarily presided, and welcomed the delegates in behalf of the museum.

Dr. T. S. Palmer, delegate from the District of Columbia, offered the following resolution:

Resolved, That William Dutcher, delegate from New York, be and he is hereby made chairman of the National Committee of the Audubon Societies. This motion being duly seconded was carried.

Dr. Palmer also offered the following resolution, which, on being duly seconded, was also unanimously carried:

Resolved, That five members of the National Committee shall constitute a quorum for the transaction of business.

The chairman called the attention of the delegates present to the fact that the work of the Audubon societies and the opportunities for advancing bird-protection were increasing so rapidly that it was absolutely necessary that the services of some person should be engaged who could devote his entire time to the work, not only in conducting the large correspondence, but also in visiting various sections of the country for the purpose of organizing new Audubon societies and bird clubs, and also to attend meetings of game protective associations, women's clubs, farmers' and horticultural societies, and, in fact, every gathering of people that could be interested in and aid the work of bird-study and protection.

After a discussion of considerable length, Mrs. Wright, delegate from Connecticut, offered the following resolution, which, being duly seconded, was unanimously carried:

Resolved, That the chairman be directed to communicate with the respective delegates of the various state Audubon Societies, who are not present at this meeting, and also with the executive officers of the societies that have not appointed delegates, and inform them that after considerable discussion it was the consensus of opinion of the delegates present that the Audubon movement had attained such force and had broadened to such a degree that it was necessary that the services of some interested and intelligent person should be secured who will devote his time exclusively to and take charge of the work of the National Committee of the Audubon Societies in order that all matters of general national scope may receive proper and immediate attention.

Resolved, further, that the said National Secretary shall be paid such compensation as shall be agreed upon, and also shall be reimbursed for his necessary expenses when traveling in the performance of his official duties.

Resolved, That all of the State Audubon Societies be requested to concur in the above action and to state approximately the sum that they will be able to contribute for the first fiscal year.

These resolutions being seconded were duly and unanimously carried.

Dr. Palmer called the attention to the delegates present to two important bills that had been introduced in the House of Representatives. Both these bills were introduced by Mr. Lacey, the author of the Lacey Act. They have been favorably reported by the committees to which they were referred and are now on the calendar.

The Alaska bill provides not only for the protection of game but also of birds of all kinds and prohibits the export of birds for commercial purposes. It will extend bird protection over a territory twice the size of the state of Texas which now has no laws of the kind.

The Forest Reserve Bill provides for the protection of birds and game on the Forest Reserves in an area equal to the combined area of New York and New England. Under existing laws there is no adequate protection for birds on these reservations.

He therefore offered the following resolution which, in view of his explanation, and on being seconded, was unanimously carried.

Resolved, That the attention of the several Audubon Societies be called to two bills now pending before Congress, namely, the bill "For the protection of Game in Alaska" (H. R. 11,535) and the bill "To transfer certain forest reserves to the control of the Department of Agriculture, to authorize game and fish protection in forest reserves," etc. (H. R. 11,536), and that the societies be urged to take such action as they may deem proper to secure the prompt passage of said bills.

Dr. Palmer also informed the committee that he had ascertained that the fashions for the fall and winter of 1902 would demand an increased use of aigrettes, and in view of the fact that in the past women had almost universally offered as an excuse for wearing aigrettes that they were ignorant of the fact that the grossest cruelty was used in securing these plumes, it was deemed advisable by the delegates present that every means should be taken by the Audubon Societies of the country to make the public acquainted with the methods of obtaining aigrettes; also that the use of them had practically exterminated in the United

States the species of birds which produced the aigrettes, and that every means possible should be taken to educate the public regarding this evil.

Dr. Palmer therefore offered the following resolution, which, being seconded, was unanimously carried.

Resolved, That, in view of the probable increase in the use of aigrettes in the near future, the several Audubon Societies be requested to call the attention of their members to the conditions under which aigrettes are obtained and sold, in order that there may be no misunderstanding on the part of the trade or the general public as to the legal status of the sale of these feathers.

Mrs. Davenport, delegate from Vermont, suggested that often opportunities were lost to advance to the cause of bird protection because no one formally appointed to represent the Audubon Societies was present at educational and other large conventions or gatherings; she therefore offered the following resolution, which, being duly seconded, was unanimously carried:

Resolved, That the chairman of the National Committee be empowered to appoint representatives of the Audubon Societies to attend educational conferences and other meetings, at which it seems desirable to present the objects and work of the Audubon Societies.

Dr. Palmer stated that inasmuch as the annual meeting of the American Ornithologists' Union would be held in Washington, D. C., in November, 1902, and as the efforts of the Audubon Societies for bird protection were along the same lines as those of the American Ornithologists' Union, he thought it desirable that the next meeting of the National Committee of the Audubon Societies should be held at the same time and place as the annual meeting of the American Ornithologists' Union; he also stated that he had been deputized by the Audubon Society of the District of Columbia to extend to the Audubon Societies of the United States a cordial and urgent invitation to hold the second meeting of the National Committee and the annual conference of the Audubon Societies in Washington, D. C., November, 1902.

Miss H. E. Richards offered the following resolutions:

Resolved, That the invitation of the Audubon Society of the District of Columbia, to hold the next meeting of the National Committee and the conference of the Audubon Societies in Washington, D. C., in November, 1902, be accepted, and be it further

Resolved, That each Audubon Society be requested to select a delegate to the National Committee on or before November 1, and to notify the chairman of said appointment in order that the said committee may be organized for the ensuing year, and that if such appointment be not made by any society, then the present delegate of such society, if there be one, shall hold office until a successor be appointed, and shall be entitled to act as delegate at the second meeting of the National Committee.

The Committee was entertained by Mrs. Wright, at the Arts Club, after which the first meeting of the National Committee of the Audubon Societies was declared adjourned.

The United States Department of Agriculture has recently issued a little pamphlet that should prove of great use to all who are working for bird protection. It is entitled Directory of State Officials and Organizations concerned with the Protection of Birds and Game, 1902, being Circular 7035 of the Division of Biological Survey.

This directory has been revised to April 1. The addresses are conveniently grouped under four headings—State Officials, National Organizations, State Organizations and Audubon Societies, and so complete is it that no one in future need hesitate in reporting violation of the law from lack of knowledge of the proper persons to address.

Several interesting reports are held over for lack of space, owing to the necessities of the National Committee,—these being from Missouri, Minnesota and Rhode Island.

This last named society has secured a charming lecture and a set of colored slides, and the outfit is already well patronized. The lecture was written by Miss Annie L. Warner, of Salem, a careful bird student, and should other societies need written lectures for similar work they may be glad to learn of this opportunity for obtaining them.



PIGEONS IN FLIGHT

Bird = Lore

A BI-MONTHLY MAGAZINE
DEVOTED TO THE STUDY AND PROTECTION OF BIRDS
OFFICIAL ORGAN OF THE AUDUBON SOCIETIES

Vol. IV

JULY — AUGUST, 1902

No. 4

Concerning the Bad Repute of Whiskey John

BY FANNIE HARDY ECKSTORM

Author of 'The Bird Book,' 'The Woodpeckers,' Etc.

IN these days every bird has his apologist, but I should rather not be the advocate to defend Whiskey John. He is the worst thief, the greatest scoundrel, the most consummate hypocrite abroad in feathers, with his Quaker clothes, his hoary head, his look of patriarchal saintliness. He is a thief, a thief, a thief!

A friendly bird-lover who would loyally whitewash the character of the arch-fiend provided he were a *feathered* biped, argues that to admit of birds having a glimmering of moral sense would make them accountable for their actions in cherry-time, and that therefore the negative must be sustained. The vicious circle in the proof appears at once when we bring forward Whiskey Jack as a bird indubitably lacking moral sense, and inquire what would happen if all other birds were equally defective in their ethical notions. The sum of all the charges against Whiskey Jack is that he knows nothing and cares nothing about morals. Whether he does or does not know the difference between *meum* and *tuum*, he has a decided preference for what is not his own. He steals from pure love of pilfering, and shows not the slightest compunctions of conscience. He steals not alone to satisfy his own wants, but those of his brothers and sisters and wife's relations, and his third, fourth and fifth cousins, and after that he keeps right on stealing for posterity. He takes not only articles for which he has a use and an appetite, but others which he never saw before, doesn't know the uses of, doesn't like the taste of, and can never learn to enjoy or use. I am willing to share generously my cherries and strawberries with the birds; I am ready to divide my last meal of bread and meat with them, but I draw the line at allowing any bird to eat my *soap*. Soap is soap in the Maine woods, forty miles from a store, and even if it were something else it is debatable

whether half a cake (of soap) is better for birds than no bread. But, as old Jed Prouty said of the dog that wanted the moon, Whiskey Jack is "cov'tous."

If he were a better-known bird his ill-repute would be in everybody's mouth; his isolation saves him. But all fur-hunters and all who travel the great spruce woods, from Atlantic to Pacific, know and revile Whiskey John. He goes by many names, of which this, being only a corruption of the Indian Wis-ka-tjon (but wouldn't one like to know what that means in Indian!) is as complimentary as any. In Maine he is most commonly called the Moose-bird or Meat-bird; in the Adirondacks he is the Camp-robber; in books he is the Canada Jay. If you would know how he looks do not go to the scientific books that tell you every feather on him, but take down your Lorna Doone and turn to those pages where that wily old scoundrel, Counsellor Doone, running away with Lorna's diamond necklace, almost persuades John Ridd that he is a good man cruelly misnamed. Whiskey Jack is the bird counterpart of Counsellor Doone. He looks like him, acts like him and has the same undesirable expertness in acquiring property not his own. Newcomers to the woods dread bears, wolves and snakes. What they fear will never harm them; it is the weak things of the wilderness that are exceeding strong. There is a certain large-winged, tiny-bodied little fly, so feeble and appealing that in pity for his frailty you tenderly brush him aside—and then learn that he is the bloody butcher who is flaying your neck and ears; there is this clear-eyed, mild-mannered, trustful bird, for whose good behavior you would go bonds—until he eats your soap. These two and the mosquito are the real enemies of man in the wilderness.

Suppose that you are paddling along one of the still, thicket-bordered, moose-haunted streams of northern Maine, the "Sis," on Caucomgomoc, for example. There is a whistling and confabulating ashore and down scales a medium-sized gray bird, whitish beneath and with a white forehead which gives him a curiously venerable and bald-headed look. He stretches out his black legs and alights with an uncertain hover on your canoe-bow. "*Ca-ca-ca?* Who are you anyway?" he inquires, looking boldly at you. You are new to this sort of thing and the woods are big and lonely; it seems like getting into a city to go where nobody cares about you, and this confidence man takes you in at once. He flits ashore and tells the others that is So-and-so, of New York. Then back he comes; he never stays still long anywhere. "*Ca-ca-ca?* Got any meat today?" says he, seating himself again upon the bow. Perhaps the guide has given you a hint, and this time you bat at him with the paddle and bid him begone for a thief. That hurts his feelings; he puffs out his waistcoat feathers in ruffled innocence till you forget that it would take

half a dozen such thistle-down birds as he to weigh a pound, and he says: "Look at me, do you imagine that a fellow as old and gray-headed and respectable as I am would steal?" You do look at him—a little, stout, white-headed old gentleman with a clear hazel eye, like a superannuated clergyman who had gone into business too late in life to learn the ways of a wicked world, and you apologize profoundly—that is, if you are a novice in the woods; if you have already paid for your introduction to Mr. Whiskey John, you remark, "Pecksniff, get out!" and resort to the argument of the paddle.

He flits away forgiving you; Whiskey Jack is never above such mean revenges. When he comes back, as he is pretty sure to do, it is with the nonchalant impudence of a private detective, "If you don't mind," says he, "I think I'll just take a look at this outfit; I'm a sort of game-warden and have a right to overhaul your baggage." The next minute you hear the guide's paddle bang the middle bar of the canoe. "That there blame Meat-bird a-stealin' our saddle of deer," he explains briefly.

This time Whiskey John is irritated and he flies off talking jay-talk, a most profane language, threatening to follow you to your camping ground and bring with him every last relative that he has.

He does it, too. When you put your stuff ashore and begin to pitch your tent you know that you have a part of a saddle of deer, a big trout cleaned and split, a Partridge in the leg of one wading boot and a Wood-duck in the other, thrust there hunter-fashion to safe-guard them from accidental loss. You turn your back for a few moments, hear nothing unusual, suspect no mischief; but when you turn again you find the trout is a drabbled rag, rolled in dirt, the roast of venison which was to be the best part of your feast, is riddled above the kidneys (which are the favorite morsel of most meat-eating birds), and both the Duck and the Partridge have been dragged from their concealment and chiseled down the breast till there is nothing left. This is lesson number one. It teaches that the Meat-bird will destroy an incredible amount of meat in a very brief time.

You are now prepared to proceed to lesson number two, which is that if his appetite is limitless yet nothing comes amiss to it. The tent is up; the guide is off to get water from the spring; the fire crackles and the potatoes, boiling in their kettle, are knocking at the cover of it; the bread is baking in the open baker and the nice little collops of venison are lying in a tin plate before the fire all ready for the pan; you lie back on your blanket and dream dreams. Nothing happens till the guide returns, and then you hear a muttered growl about leaving a "sport" to keep a camp. There is the guide, looking at an empty plate, and there on a bush sits a Meat-bird with a very bloody breast. The connection is unmistakable.

Never mind; there is more meat where that came from, and a bird that, in addition to all his other work, has just stolen the dinner for two men cannot be hungry. But he doesn't appear to have lost his interest in your affairs. Instead, he tip-toes around on a limb, with wings and tail half spread, whistling and talking, and no sooner is a fresh supply of meat in the pan than he sweeps down in the smoke and heat and balances a moment on the long handle of the frying-pan, calculating the risks of stealing from the pan. Reluctantly he gives up the project and disappears around the corner of the tent. Presently other things begin to disappear. There is a little hollow in the ground, so that the sides of the tent are not pegged down closely. Entering here, he goes to work within three feet of your elbow, being hidden by a box, and, with the tireless industry which is his only virtue, he applies himself to whatever is nearest. You have some cherished candles, your only light for reading; he drags them off by the wicks. There was a dipper of grease for making pitch; that vanishes. You had pinned a rare bug to a chip; he eats it. You had saved some Duck's wings for the children at home; they are overhauled. The guide left his piece of pork unrolled, and it probably goes off in company with your tobacco, which never turns up after this visitation of Whiskey Jack. When you start to wash up for dinner, there is the rascal eating your soap for dessert! Those who have summered and wintered him say that the only article he has never been seen to steal is kerosene. "Him eat moccasins, fur cap, matches, anything," says an Indian to one observer. As for the amount that they will devour and carry off, there is no likelihood of any one ever having a patience to equal their—their "cov'tousness," as Jed puts it. There is in this typical account of their actions nothing exaggerated except the probability of its happening in one day.

The Canada Jay is not found everywhere even in Maine. One might camp for years in our woods and never see a Jay, for they are the most local bird that we have in the woods. Roughly speaking, the line of his frontier very nearly coincides with the route of the Canadian Pacific railway where it crosses this state. For example, he is found on the Grand Lakes of St. Croix, but not on Dobsy and Nicatowis, four ranges of townships to the south. In that region, which seems perfectly adapted to him, I have camped eight weeks; and my father, in the course of twenty-five years, has spent as many months; yet, with one exception, we have neither seen nor heard a Canada Jay in all that wilderness. On collating the experiences of four good observers, I find that they can mention but two instances of a Canadian Jay being seen within fifteen miles of Bangor, and one of these was fully thirty years ago and the other not less than sixty years since; yet hardly more than fifty miles away they are a common resident. Why do they

never straggle a short day's journey? Why is it that an omnivorous bird, intelligent, restless, enterprising, fearless, apparently capable of adaptations and certainly attracted by the neighborhood of man, belonging to an order of birds which is eminently civilizable, is so closely restricted in its distribution? There is no climatic barrier; there is no noteworthy difference in the vegetal faunas of places within and without his limits; there is no dietary restriction as in the case of some local birds. Here is a very interesting ornithological puzzle.

The nest and eggs of the Canada Jay I have never seen. A standing offer of two dollars apiece for the eggs, though repeated several years, failed to bring in a single specimen. Woodsmen seem very ignorant of their breeding habits, and the only positive statement that I remember was the remarkable information volunteered by a lumberman that the "Beef-bird" nested and had young every month in the year. It is well known, however, that they nest in March when the snow is still very deep in the woods. The first of June I have seen the young, fully feathered and larger than parents, and with the edges of their bills still yellow. They were a very dark blackish slate, wholly unlike the adult. This plumage seems not to have been generally noticed, though it is worn some time.

On considering the evident reluctance of woodsmen to hunt up the nests of this bird, I have suspected that there may be some superstition connected with the bird similar to that which Mr. L. M. Turner records of the Labrador sub-species. The Indians there believe that "if a person sees the eggs in the nest, and especially if he counts them, some great misfortune will befall him." This is curiously substantiated in Mr. E. W. Nelson's account of the Alaskan sub-species, where he notes that the natives refused large bribes rather than take the risk of angering the bird by stealing its nest. The superstition applies only to the eggs, and is, I suspect, coincident with the distribution of the bird, though I never thought to inquire of our hunters and Indians on the subject. Indeed, unless it were chanced upon, its authenticity as a superstition would be doubtful, as the legend-hunter in Maine has only to state what he wants and he gets all he pays for. The seekers of the marvelous are sure to be satisfied.

How the native hunters always hated Whiskey Jack! They never had a good word for him, and a bullet was their usual greeting. The camper came home to find his hut invaded; the deer-stalker had his carcasses of venison riddled by their sharp bills and unfit for market; the trapper's sable were half-ruined in the traps, and, more provoking yet, his traps were robbed of their bait within five minutes after they had been set. It was hard work to plod all day through the lonesome, snowy wilderness, carrying a heavy bag of bait, and to feel that he was doing

nothing but feed these gray wolves in feathers, who robbed him of his chance to get a fisher, lynx or sable almost before he was out of sight. And there is a side to this enmity between the hunter and the Meat-bird that is gruesome. It is years since, but some of us still recollect the tale, of an old outlaw and murderer—more than once a murderer if reports were true—who after haunting the woods for years, a terror to those who crossed his path, fell finally in his turn, the victim of a man as evil as himself. He was shot by his partner and left alone to starve to death in his camp. And after three weeks of utter abandonment and despair, as he saw his end approaching, with no possibility of escaping it, he crept to the cold fireplace and got a black coal with which he scrawled a message on a shred of birch bark. And they found him later, dead and alone, with a tin basin protecting his face, so that, as the writing said, "the Meat-birds might not pick his face after he was dead."

A dread like that, shadowing the last hours of such a man, directing his last words and last act: what a revelation it is of the character of the bird and of the inveterate enmity with which the hunter regards him!

Nighthawk Notes

BY GEORGE H. SELLECK, Exeter, New Hampshire

With photographs from nature

THE Nighthawk has been a mystery to me since my boyhood, when my grandmother told me of the bird that says "pork" and "beef."

Its cries, its nocturnal habits, its erratic but noiseless flight are almost weird. John Burroughs says to get acquainted with a bird you must know not only the bird, but its song and nest. Although I have seen and heard many Nighthawks, and have watched a family of them carefully for a month, have seen both the male and female sitting, and have had the young ones in my hands and pockets, much of the mystery still remains.

Some birds will apparently gain confidence in a careful visitor who comes to them often, but this one does not. It resembles the bark of a tree and the bare gray ground so closely in color that it is very hard to distinguish it from its surroundings. It seems to know this and will sometimes allow you to touch it with a stick or your finger. It shows anger rather than fear when disturbed and must almost be pushed from its eggs. Then it makes a rattling hiss somewhat like that of a goose, and jumps at you perhaps, or it flies to the nearest stump, where it lies hissing with outspread wings.

One day in May I saw a Nighthawk alight on a pine branch, where it went to sleep. The fact that it sat lengthwise of the branch with its head

turned away from the trunk made it look, even through a good pair of field-glasses, like a knot, and I found it hard to persuade my wife that it was not one. I suppose it sat with its tail towards the tree trunk because it was more comfortable to have its head up hill than down.

Soon after this we had a week of almost continuous rain, and I saw no more birds until the weather cleared, when the Nighthawks were everywhere flying in the bright sunshine.



NIGHTHAWK WAITING NEAR NEST

June 10, I saw one sitting. My neighbor's daughter had found the nest two days before. As I am a teacher of mathematics, I was pleased to think that this bird had a mathematical turn of mind, for the eggs were laid almost in the center of an equilateral triangle made of small pine branches that happened to lie across each other. There was no real nest, only a slight depression from which the twigs had been removed.

I am not a 'camera fiend,' but I wanted pictures of the eggs and bird. Two of my friends are successful amateurs, and I induced them to furnish the necessary camera, patience and skill. At first we focused at a distance of twelve or fifteen feet, then gradually worked up to five feet

without disturbing the bird, which was asleep part of the time. Then we changed our position for a different view. To gain this a brier, which grew within twelve inches of the triangle, was cut away. Our next picture was to be of the eggs, so I undertook to frighten the bird off and moved my hand up gently toward it as it sat with wide-open eyes and quivering throat. It walked off with outspread wings when my fingers were about to touch it and sat down just outside its triangular home. Next I went round to the opposite side and put down my hand to make it spread its wings for a snap-shot. It now had three men and



NIGHTHAWK SITTING

a camera within a few feet of it and did not seem daunted, but with ruffled feathers, open mouth, spread wings and tail, backed hissing over the edge of the triangle.

We had worked for an hour or more and had taken five time-exposures and one snap-shot, yet we left the bird at home when we went away. "What a devoted mother!" you say, but it was really the father, whose habit it is to sleep on the nest after his night's outing. Meantime the mother was flying about for insects or resting on a branch near by. She took her place on the eggs at night and watched, I suppose, during the absence of her husband until dawn. At any rate, I have seen her there at seven at night and at half past three in the morning,

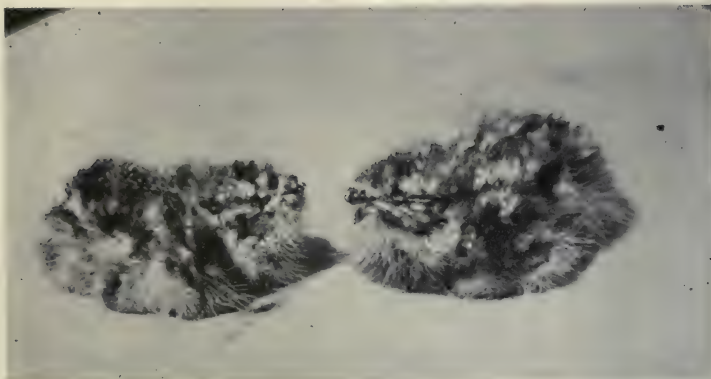
while the males occasionally flew by so close as to show their little white throats.

I found the young at noon, June 24, and that night I saw one leave the nest. Next day we went to get their picture, but they were gone. At dawn next morning I made them another call, hoping to find them at home, but they were not where I expected, and I started away disappointed, when the old birds showed their anxiety by flying swiftly about me and calling out rapidly "*pick, pick, pick, pe-uk.*" I returned and soon found the little ones within a few feet of the nest. They looked like



"NOT FRIGHTENED, BUT ANGRY"

little gray and white downy chickens not old enough to run, and were about as large as a newly hatched bantam; but they proclaimed by their cries that they were Nighthawks, just as the young Chickadee sometimes tells his name before he is old enough to leave his hollow stub. To make sure of them there was now only one way: They must take a bicycle ride with me to the village photographer. Their father was waiting for them at half past eight when I took them back, asleep on the nest but faithful still. When they were two weeks old they visited the photographer again. At this time they were five and a half inches long and spread twelve and a half inches. Their legs were nearly three inches long and so strong and muscular that they could run nearly as fast as



NIGHTHAWKS TWO DAYS OLD
About natural size

young Sandpipers, but they did not try to fly and did not make a sound. This time they did not get home so early as before, but their father was waiting when they did come. After that I could not find them again, although the anxiety of the old birds showed plainly that if they were no longer housekeeping, they were camping out in the immediate vicinity.



NIGHTHAWK TWO WEEKS OLD
About one-half natural size

The Veery's Note

BY ERNEST CROSBY

When dear old Pan for good and all
Was driven from the woods he cherished,
How much he took beyond recall !
How many mysteries paled and perished !
The satyrs capered in his train,
While dryads trod a solemn measure,
Casting a backward glance in vain
On every haunt they used to treasure.

And having thus from glade and glen
Drawn by his pipe each sylvan wonder,
Pan, ere he vanished, turned again,
And broke his pipe of reeds asunder.
He broke his pipe and cast away
In heedless wrath and grief behind him
The notes that he alone could play,—
Then fled where we shall never find him.

The breezes tossed the notes about
And dropped them in ravines and hollows.
Many were lost beyond a doubt
In nooks where echo never follows.
But here and there a silent bird,
Dejected with a nameless yearning,
Picked up a trembling note unheard
That set his heart and throat a-burning.

The Nightingale, they say, found one
Beneath a moonlit thicket lying.
The Lark, while soaring near the sun,
Caught his upon the wing a-flying.
And so the Bobolink and Thrush
Found ready-made their strains of magic,
Which make us laugh with glee, or hush
With sympathy for all that's tragic.

But one unearthly minor tone
That told how Pan's great heart was broken,
Exiled and homesick and alone,
With cadences of things unspoken,

The witchery of a wild regret,
 Vibrant, monotonous and weary
 With' hopeless longing to forget,
 Fell to your lot, my woodland Veery.

Yon Tanagers are gay and red,
 Indigo blue the Bunting near them,
 A yellow Warbler flits o'erhead;
 Their songs and plumage both endear them.
 The Veery's coat is dull and dun;
 He hides and stills his cry above you
 At the least sound; yet modest one,
 More than all other birds I love you.

I love you, for anew you stir
 The old, inexplicable feeling.
 I love you as interpreter
 Of mysteries upon me stealing.
 I love you, for you give a tongue
 To silence. True, you are not cheery,
 But where has any songster sung
 A note as weird as yours, my Veery?

The Nesting of the Yellow-throated Vireo

BY JOHN HUTCHINS, Litchfield, Conn.

YELLOW-THROATED VIREOS have more than once blessed us by hanging their mossy choir-loft high in the fretwork which overarches our own lower roof, and once the Warbling Vireo came and reared her brood, so that we had antiphonal choirs.

These nests were usually from forty to fifty feet above the ground. We had often watched the building and brooding, both with glass and the naked eye, and always had wished for a closer intimacy. So during the early days of June, 1901, as if they had divined our wish, a pair of Yellow-throats came and began their home-building just outside the second-story hall window. The foundations of the tiny house were laid on the second day of June. Foundations, I need hardly say, in this case, as in that of all pensile or hanging nests, begin at the top, the bird working downward and completing her purse-like hammock as the knitter does the toe of a stocking. We shall have occasion to notice more about this later on.

The discovery of the nest-building was made, as is so often the case, by seeing the bird gathering material. We were passing near the stable, when underneath its rather deep eaves a small bird was seen to be fluttering, and we thought she was caught in a strong spider's web, as before now I have found our Hummingbird; but instead of this the bird was gathering web for her uses, and soon flew away to the front of the house, where we lost sight of her; but on coming up cautiously we had the great joy of seeing her fastening the first sticky threads of her new home to some outstretched twigs of a small low-growing elm branch close by our window. Then my note-book came into requisition, and was so faithfully used until the fledglings left the nest that a fairly accurate account may be given of what followed.

1. The birds began their building on Sunday morning, June 2. By the following Saturday, June 8, the nest was completed, so that they took about one round week of not hurried, but of quite incessant work to complete their home-making.

2. They both worked, she of the somewhat modified yellow and green and he with the deeper-colored throat and more vivid livery. It was pretty to see and hear them about their work. There seemed to be such a considerate and even courtly etiquette about it all. One would come with a bit of material and find the other still engaged upon the nest. Then he or she would perch close by, often with a little subdued chirp, such as birds in their love-making know how to give, and then, when the worker had finished his bit, with another answering twitter he or she would quit the field, as if saying: "Now the way is open for you." At times there would be a halt in their comings and goings, filled in with the deep contralto tones of their answering notes, as they fed among the branches or rested during the midday.

3. The material for the nest was almost all of spider-web. This was a matter of surprise to me. The Red-eye uses such generous bits of thin bark and pieces of paper even. And there were occasional thread-like shreds of some coarser fiber in the Yellow-throats' building, but by far the larger part was of the twisted films of the spider.

4. The manner in which the birds fastened this, part to part, and then stretched the nest into shape, was a most interesting process. I have often wondered, with the longer nest of the Baltimore Oriole, how she manages toward the bottom or lower part of her nest—whether she could reach all the way down from the outside and curve the growing pendant into form? I have had hintings, too, in her case, of how largely the work is done from the inside; but with these Vireos and their building right before me it was as if I had been taken into the nest-architects' studio and shown plans and specifications and then allowed to watch the construction itself.

The birds built the rim of their nest stout and strong, twisting the web about the twigs and over and over upon itself where it stretched from twig to twig till I wondered at their ingenuity and patience. Their little beaks reminded me of the needle of the sewing machine with its eye at the pointed end. If some Elias Howe of the earlier times had only watched a Weaver-bird with its thread in the tip of its bill the world would not have waited so long for one piece of its useful mechanism. Inside and outside the little heads would reach, with the prettiest turns and curvetings imaginable, till, as the nest grew deeper, the work was done more and more from the inside. Then it was gathered together at the bottom, with side joined to side. When this part of the work first took place the nest seemed to be strangely lacking in depth and had an unshapely look altogether.

But this was the point where the full revelation came to me of how the deepest part is shaped. I saw the bird at this stage inside the nest raise her wings against the upper rim and the twigs which held it and strain with her wings upward and her feet downward till the nest itself grew so thin that I could see through it in places. Then they began again, for the most part from the inside, weaving in more material to thicken and strengthen sides and bottom where these had become thin and weak through the stretching. This was done many times over until the proper depth and thickness were both secured. The nest after being stretched out in this way would be like the coarse warp of a fabric on a loom, and into this the little weavers wove their silken threads.

5. After this came the embellishing with the bits of lichen. These were brought, and fastened on by means of little filmy threads of the spider drawn from the surface of the nest and fastened down over the moss. There was not nearly so much of the lichen used on this nest as on others which I have seen with the glass. It may be that the birds felt a sense of protection from our presence and less need of hiding their home, for they became very tame and quite undisturbed when we stood at the open window.

6. The brooding time was full of interest to us. So far as we could judge by the birds' actions, there were three eggs. We could not see into the nest. After the sitting proper seemed to have begun it was in about two weeks' time that we saw the first signs of life in the nest. The male bird took his part with the female in the incubating. He would bring food to her as she sat upon the nest and, I am not quite sure, but think that she did the same with him.

The bird sitting would frequently sing while on the nest. This question was asked, through the columns of BIRD-LORE, about the Yellow-throat by some one from a western state, and here is an answer. I sometimes thought that the deep-toned *chirrup* was a signal on the part of

the one keeping vigil that the time for the relief was due. At all events, the call was frequently answered from the branches near and sometimes by the coming of the absent mate. The Warbling Vireo also has this habit of singing while on the nest, as does also the Chebec, or Least Flycatcher, with its unmusical hiccough. My Yellow-throats were very faithful to their young, of which there were three. The male bird fed them as attentively as did the mother.

7. On July 7, nearly a month from the beginning of the brooding, the first young bird left the nest. It seemed to take good care of itself, keeping to the trees, and the next day the other two followed it. One of these found its way to the lawn, and as there was danger about in the shape of cats, I played the Good Samaritan, lifting it up to a twig of the tree. In doing this the little creature caught its feet about my little finger. It seemed as if I should never be able to loosen its hold. I never could have believed such strength of clutch possible in so tiny a subject! But then I was able to understand why they had been able to keep to the nest. The elm tree which had been their home stood close by the northwest corner of the house. Through many thunder storms which came to us in that month of June I have seen that slight branch from the body of the elm whip in the blast as if it would be torn from its setting in the great trunk. The nest would be top-down and driven every way, and yet never a fledgling fell from its place. No wonder there had come a development of clutching power!

The Sapsucker

BY EDITH M. THOMAS

A bacchant for sweets is the Sapsucker free!

"The spring is here, and I'm thirsty!" quoth he:

"There's good drink, and plenty, stored up in this cave;

'Tis ready to broach!" quoth the Sapsucker brave.

A bacchant for sweets! "'Tis nectar I seek!"

And he raps on the tree with his sharp-whetted beak;

And he drinks, in the wild March wind and the sun,

The coveted drops, as they start and run.

He girdles the maple round and round—

'Tis heart-blood he drinks at each sweet wound;

And his bacchanal song is the tap-tap-tap,

That brings from the dark, the clear-flowing sap.

For Teachers and Students

How to Name the Birds

STUDIES OF THE FAMILIES OF PASSERES

BY FRANK M. CHAPMAN

FIFTH PAPER

FAMILY 11. VIREOS. *Vireonidae*.

Range.—An exclusively American family containing some fifty species, which are distributed from Hudson Bay to Argentina. Twelve of the number, all members of the genus *Vireo*, reach the United States, and eight of these are found east of the Mississippi.

Season.—North of the sub-tropics Vireos are migratory birds, the White-eyed and Blue-headed Vireos alone, of our eastern species, wintering as far north as Florida. In the Middle States they are first represented by the Blue-headed Vireo, which comes in the latter half of April. The remaining species appear in May, and the Red-eyed and Blue-headed Vireos are with us until the middle of October.

Color.—Olive-green, without streaks or spots, is so characteristic a color among Vireos that they were formerly often spoken of as "Greenlets." This color is confined to the upper surface, the under parts in most species being white or whitish, with often a yellow tinge, or sometimes strong, clear yellow.

External Structure.—Our Vireos are small birds averaging somewhat less than six inches in length, with the bill rather slender, but cylindrical, not tapering to a point, and distinctly *hooked*. The outer primary is usually very small or 'spurious,' and in some cases is apparently absent. The base of the bill is beset with bristles, a fact which, in connection with its hooked tip, might lead to the confusion of Vireos and Flycatchers, but in the latter family the bill is wider than deep at the base, and in the former as deep as or deeper than wide.

Appearance and Habits.—With the exception of the White-eyed and Bell's Vireos, which are thicket-haunters, our Vireos are tree-inhabitants, lawn, garden, orchard and woodland rarely being without some member of this group at the proper season. While, like the Flycatchers and Warblers, the Vireos are insect-eaters, they differ from the members of both these groups in their manner of securing food. They are not wing-feeders like the Flycatchers, nor nervous, active flutterers like the Warblers. Comparatively deliberate in actions, they hop from limb to limb, carefully examining the bark and leaves in search of prey as they progress.

Song.—While not great musicians, the Vireos are pleasing singers. "In the quaint and curious ditty of the White-eye—in the earnest, voluble strains of the Red-eye—in the tender secret that the Warbling Vireo confides in whispers to the passing breeze—he is insensible who does not hear the echo of thoughts he never clothes in words."—COUES.

FAMILY 12. WARBLERS. *Mniotiltidae*.

Range.—Like the Vireos, the Warblers are exclusively American birds, ranging from the fur countries to Argentina. About one hundred species are known, of which sixty reach the United States, thirty-eight of this number being found east of the Mississippi.

Season.—Like all our strictly insectivorous birds, Warblers are highly migratory. Only one species occurs in temperate latitudes during the season of heavy frosts, and this, the Myrtle Warbler, becomes for a time a fruit-eater, subsisting on the berries of the myrtle or bayberry. The migration of Warblers begins in early April with the coming of the Palm Warbler, and in the fall is not concluded until the same species takes its departure, about November 1.

Color.—Olive-green above, whitish or yellow below, with white wing-bars and tail-patches, and conspicuous yellow or black markings, describes the characteristic coloring of most Warblers, but so widely do they vary in color that no one type can be made to stand for the group. As with many

Yellow-throated Vireo

VIREOS. Family *Vireonidae*. (One-third natural size)
Red-eyed Vireo

Blue-headed Vireo

Warbling Vireo





WARBLERS, Family *Mniotiltidae*. (One-third natural size)

Black-throated Green Warbler
Canadian Flycatcher

Worm-eating Warbler
Nashville Warbler

Louisiana Water-Thrush
Maryland Yellow-throat

Yellow-breasted Chat
Parula Warbler

brightly colored birds, there is marked sexual and seasonal variation among Warblers, the male being the brighter in the spring, but often resembling his mate in the fall, when the young bird of the year may differ from both his parents. Thus, in making a 'key' to our thirty-eight eastern Warblers, the writer found it necessary to represent their different plumages by somewhat over one hundred specimens.

External Structure.—As in the case of color, Warblers vary so in form that no one description can be given of the family as a whole. The slender-billed species, well represented by the members of the genus *Helminthophila* and *Dendroica*, might be confused with the Vireos, but the bill is more acute and is never distinctly hooked. The flat-billed, fly-catching species of the genera *Wilsonia* and *Setophaga* might, if the bill alone is considered, be mistaken for true Flycatchers, from which, however, aside from other reasons, they are to be distinguished by their brighter colors. All Warblers have the back of the tarsus thin, not rounded, as in the Flycatchers, and the three outer primaries of nearly equal length.

Appearance and Habits.—As might be expected, striking differences in form are accompanied by striking differences in habit. Even among the slender-billed Warblers, some haunt the bushes and some the trees, and several may be called terrestrial. The flat-billed species, as has been remarked, are Flycatchers, not, however, of the sedate, automatic, Phoebe type, but of more erratic movement, while the majority are active flutters—the feathered embodiment of perpetual motion.

Song.—With some marked exceptions, notably in the genera *Geothlypis* and *Seiurus*, the songs of Warblers are rather weak and characterless, and bear a resemblance to one another, which renders them of little assistance to the beginner in identifying their owners. Indeed, comparatively few field-students can distinguish at once the notes of certain species. Particularly is this true of migrants, which, present only for a brief period in the spring and songless when returning in the fall, are heard, therefore, at intervals of nearly a year.

FAMILY 13. PIPITS AND WAGTAILS. *Motaciltidæ*.

Range.—Of the sixty odd species included in this family, only three are American, two being North, one South American, while the remainder are distributed through the Old World, except in Polynesia and Australia. The only species found regularly east of the Mississippi is the American Pipit or Titlark.

Season.—The Titlark breeds in arctic and subarctic America and southward in the higher parts of the Rocky mountains. It winters from the southern states to Central America, migrating in October and April.

Color.—Many of the Wagtails wear rather striking costumes of black and white or yellow, but Pipits are rather Lark-like in color, dull brownish above; whitish, streaked below.

External Structure.—Like the Larks, the Wagtails and Pipits have the hind toenails much lengthened, but the bill is more slender than that of the Larks, the nostrils are not covered by bristly tufts, and the back of the tarsus is thin, not rounded, as in front.



AMERICAN PIPIT. Family Motacillidæ
(One-third natural size)

Appearance and Habits.—The Motacillidæ are terrestrial birds, and consequently walkers, a trait which is a field aid in distinguishing the Pipit from certain ground-haunting Sparrows, while from the equally terrestrial Larks, Wagtails and Pipits are to be distinguished by their habit of 'wagging' or 'tetering' their tails.

Song.—The Pipit, like most terrestrial birds, usually sings on the wing, but sometimes delivers its short whistled song from the ground. As a migrant it utters only a faint *dee-dee* when taking wing or passing overhead.

The Young Observers' Prize Essay Contest

We trust that all Young Observers will pardon the delay in reporting on their essays sent in competition for the prizes announced in BIRD-LORE for April and June, when they learn that it is due to the Editor's absence on a bird-study journey in the Bahamas.

Returning, he finds numerous contributions on the birds of February and March, and the birds of April and May, and, as usual in similar cases, finds much difficulty in deciding just which are the best. It was only, therefore, after careful consideration that it was decided to award the prize for the best essay on the Birds of February and March to Master Vincent E. Gorman, of Montclair, New Jersey, while the prize for the best essay on the Birds of April and May goes to Master Archie Walker, of Andrews, North Carolina. Master Walker's essay appears in this number of BIRD-LORE as somewhat more seasonable than that by Master Gorman, which will be published in due time.

Among the essays received we especially commend those by the follow-

ing Young Observers: Maurice J. Clausen, Toronto, Canada; Anna D. White, Lansdowne, Pa.; Edward H. Nichols, Camden, N. J.; Margaret Walker, Andrews, N. C.; W. C. Scott, Dewey, Ohio; Lewis Gannett, Rochester, N. Y.; Edmund W. Sinnott, Bridgewater, Mass.; Ruth Daniels, West Medway, Mass.

Now it is time to send in the essays on the Birds of June and July. These may, as heretofore, contain general notes on the bird-life of these two months or they may describe only the habits of a single species; but in every instance particular care should be taken to be definite and exact, giving *dates* and *periods*. Not, for instance, writing "sometime early in June," or, "the young were in the nest about two weeks."

We now offer a fourth prize of a book or books to the value of two dollars to the Young Observers of fourteen years or under, for the best seven- or eight-hundred-word article on the Birds of August and September.



What Bird is This?

Field Description.—Length, 5.60 in. Above grayish brown, wings and tail darker; below whitish washed with grayish brown; lower mandible lighter than upper.

NOTE.—Each number of BIRD-LORE will contain a photograph, from specimens in the American Museum of Natural History, of some comparatively little-known bird, or bird in obscure plumage, the name of which will be withheld until the succeeding number of the magazine, it being believed that this method of arousing the student's curiosity will result in impressing the bird's characters on his mind far more strongly than if its name were given with the picture.

The species figured in June is the female Bay-breasted Warbler.

For Young Observers

A PRIZE ESSAY

Bird Notes for April and May

BY ARCHIE WALKER (aged 10 years), Andrews, N. C.

LOUISIANA Water-Thrush came April 1st. Every spring it nests in an old pasture by a branch back of our house.

Rusty Blackbird came on the 5th of April. At first I saw just one, he was walking on the limb of an apple tree, I watched him till he flew to an oak across the road where I saw several others, one sat high up in the tree and kept watch, his song sounded like a wagon squeaking.

A Vireo was in our orchard on the 6th of April. It was very small, had two wing-bars, and a white eye-ring, and was catching insects like a Flycatcher.

Four wild Ducks were on a neighbor's pond on the 8th of April, when they flew I saw white on their wings.

On the 9th of April I saw the Brown Thrasher, next day he was singing the sweetest I nearly ever heard ; we went under the tree and he sat there a long time singing the same as if we hadn't been near.

The Black and White Creeping Warbler came on the 10th, we saw it get a worm out of a hole in a limb.

On the 17th we saw a crooked long-necked bird that I think was a Little Green Heron.

The White-eyed Vireo came on the 18th, it sings very much like the Chat but is smaller and not as yellow underneath.

The same day I heard Cat Bird going like a cat crying but did not get to see it for a week.

The Myrtle Warbler was the first to come. Soon after others came, but were so high up in the trees we could not tell what they were.

On the 18th we saw two brown birds we took to be Wood Thrushes, which we call the "Quillaree." They were feeding on the ground with a Flicker.

We saw and heard several Log-cocks and heard Oven-birds in the laurel. After awhile I saw one walking on the ground. It made me think of a Titlark, only it did not tilt its tail.

We saw a large bird somebody had killed in a marshy field by a river. It looked something like the Little Green Heron, only it was much larger and a different color. It was an American Bittern. They call it the Indian Hen here.

On the 19th of April I heard the sweetest new song in the spruce

pinus. We saw a little bird about the size of a Chickadee hanging on the under side of a limb. It was a Ruby-crowned Kinglet. Afterward we saw two in the orchard so close that we saw the red on their heads.

The same day I saw a male Redstart in the plum trees, and a Summer Yellow-bird and a Warbler that was new to me. It had a chestnut cap and yellow under its tail, which it tilted all the time. I afterward saw it feeding on the ground with Chipping Sparrows. It was a Palm Warbler.

On the 20th we saw a flock of Purple Finches. We very much excited over them, as they were scarce to see.

On the 22d I saw a Catbird near its old nesting-place, and on the 24th saw it carrying straw to build another nest.

The Baltimore Oriole was in our orchard on the 22d.

On the 23d I saw about ten or twelve Indigo-birds.

April 26th I saw a large bird at our pond. I think it was an American Bittern. It would turn its head sideways and walk slowly out on the limb, putting one foot over the other.

On the 27th I heard a Chat singing, and I would mock it and it would stretch its neck and said "Whoo!"

On the 30th of April I saw the Cape May Warbler in the peach tree by our dining-room window. The male and female were both there, and we think they are the tamest Warblers we ever saw. They sit still longer than the other Warblers, and don't seem to care a bit if you look at them.

On the 2d of May I saw a Baltimore Oriole carrying strings to build its nest. It is interesting to watch it tie them to the limb to hang their nests by.

They built a nest in the same tree last year, and took the strings from the old nest to make their new one. I put out some strings on the fence, but they did not take them, as they did last year, but on the 4th a Redstart and a Summer Yellow-bird came and got them.

The other birds I saw in April and May that do not stay all the year were: Hummingbirds, Hooded Warbler, Blackburnian Warbler, Parula Warbler, Scarlet Tanager, Purple Martins, Solitary Sandpiper, Kingfisher, Rough-winged Swallows, Orchard Oriole, Whip-poor-will, Chimney-swift, Bullbats, Cuckoo, Cedar Birds, and a great many Warblers that I didn't know. I would like very much to tell about the nests I've found this spring, but it would make my paper too long, so I will give a list of them: Catbird's nest with five eggs; Field Sparrow's nest, on the ground, with three eggs; Chickadee's nest, in a fence-post, in a hole too deep to see eggs; Carolina Wren's nest, on front porch, in a cigar-box, five eggs; Bewick Wren's nest, in a hole in a chimney; four Chipping Sparrows' nests, two Blue-birds' nests, three Baltimore Orioles' nests, Blue-gray Gnatcatchers' nest, Chebec's nest, two Flickers' nests, and, the most interesting of all, an Oven-bird's nest.

Book News and Reviews

NESTS AND EGGS OF AUSTRALIAN BIRDS.

Including the Geographical Distribution of the Species and Popular Observations Thereon. By ARCHIBALD JAMES CAMPBELL. Melbourne. With map, 28 colored plates and 131 photographic illustrations. Printed for the author by Pawson & Brailsford, Sheffield, England. 1900. 8vo, 2 parts, xl + 1102 pages.

In these two handsome volumes Mr. Campbell presents the results of his long-continued study of Australian birds, together with what has been learned by others of their nesting habits, the whole forming a thoroughly up-to-date treatise on the subject. Of the some 765 species of Australian birds the eggs of 'considerably over 600 are known,' as compared with the 413 which had been discovered at the time Mr. Campbell published his 'Manual of the Nests and Eggs of Australian Birds' in 1883, an indication of the activity of Australian field ornithologists in the past twenty years.

Several pages are often devoted to a single species and the value of the text is greatly enhanced by the addition of twenty-seven admirably colored plates figuring the eggs of over two hundred species, and particularly by the presence of the one hundred and thirty-one photographs from nature, chiefly by the author, D. Le Souëf, and S. W. Jackson, illustrating the nests and eggs of nearly as many species.

Experience alone fits one to realize the labor involved in the preparation of a work of this kind, where the material is largely to be gathered from nature often under circumstances entailing much hardship and exposure of life and limb, and we can imagine the well-deserved satisfaction with which Mr. Campbell finally views the results of his many years of conscientious work in their present attractive form—a monument to his patience, perseverance, and enthusiasm.

Lack of space prohibits our going into detail, but readers of BIRD-LORE will recall Mr. Campbell's interesting article on the

'Bower-birds,' and in a future number we shall print an illustrated paper by him on the 'Mound-building Birds.'—F. M. C.

NESTLINGS OF FOREST AND MARSH. By IRENE GROSVENOR WHELOCK. With Twelve Full-page Photogravures and Many Illustrations in the Text from Original Photographs from Nature by Harry B. Wheelock. Chicago: A. C. McClurg & Co. 1902. 12mo, 257 pages, 12 gelatine full-page prints, 57 half-tones in the text.

The author of this book is evidently a keen observer and tireless student of birds in nature. If her sympathy with them leads her to over-humanize her subjects, we may pardon this failing for her many interesting and novel observations which she records with due detail.

Her studies have been made in the vicinity of Chicago, and she has evidently had unusually good opportunities to observe certain species—opportunities of which she has availed herself so effectively that her book contains much that is novel, and it is distinctly an important contribution to the literature of field ornithology.

The photographic illustrations serve well to illustrate the text and also the difficulties of this side of bird study. The text cuts would appear to better advantage if they had been printed on coated paper.—F. M. C.

AMONG THE WATER-FOWL. Observation, Adventure, Photography. A Popular Narrative Account of the Water-fowl as Found in the Northern and Middle States and Lower Canada, East of the Rocky Mountains. By HERBERT K. JOB. Profusely illustrated by photographs from nature, mostly by the author. New York: Doubleday, Page & Co. 1902. Sq. 8vo, xxi + 224 pages, 97 half-tones.

The admirable series of articles by Mr. Job, published in 'Everybody's Magazine' during the past spring, is here attractively presented in book form.

Although these essays practically introduce Mr. Job to the public as a student of birds with a camera, he has had a wide

experience in this method of research and record, the sub-title of his work being fully borne out by its contents.

Though sometimes handicapped by the lack of proper apparatus, no one with experience can view the results of Mr. Job's camera hunting without realizing the difficulties he has conquered in winning success. Not only are Mr. Job's pictures interesting, but, illustrating comparatively little-known species, they form a distinct contribution to our knowledge of the habits of the birds treated; and, it should be especially noted, they are effectively supplemented by the accompanying text. Mr. Job, therefore, has achieved the desirable and by no means easy end of contributing to the literature of both popular and scientific ornithology.—F. M. C.

CASSINIA; A BIRD ANNUAL. Proceedings of the Delaware Valley Ornithological Club, of Philadelphia. 1901. Price, 50 cents. 8vo, 60 pages, 1 plate.

In a new, enlarged and attractive form the fifth volume of proceedings of the Delaware Valley Club is issued under the above title. Formerly containing only an abstract of the club's work, it now adds several of the more important papers presented before the club, the present publication containing the following: 'John Cassin,' by Witmer Stone; 'Observations on the Summer Birds of Parts of Clinton and Potter counties, Pennsylvania,' by Francis R. Cope, Jr.; 'Photographing a Nighthawk's Nest and Young (*Chordeiles virginianus*),' by William L. Bailey (illustrated by photographs by the author); 'A Walk to the Paoli Pine-Barrens,' by William J. Serrill; 'The Yellow-winged Sparrow (*Ammodromus saviarum passerinus*) in Eastern Pennsylvania,' by Samuel Wright; 'Trespassing of the Rose-breasted Grosbeak (*Zamelodia ludoviciana*) in the Carolinian Fauna,' by William Evans; 'Nesting of the Mockingbirds (*Mimus polyglottos*) in Eastern Pennsylvania,' by W. E. Roberts and W. E. Hannum; 'A Spring Migration Record for 1893-1900,' by Frank L. Burns; 'Birds that Struck the City Hall Tower During the Migrations of 1901,' by W. L. Bailey.

The Ornithological Magazines

The March-April number of 'The Condor' presents an interesting assortment of field notes. The leading article contains a description of the habits of the Scissor-tailed Flycatcher in Texas by Mrs. Bailey, and this is followed by an account of collecting eggs of the Long-billed Curlew and the Sharp-tailed Grouse in Montana by P. M. Silloway. Daggett contributes 'Winter Observations on the Colorado Desert,' Mollie Bryan some experiences with Anna's Hummingbird, and Wueste, notes on the nesting habits of the Black-chinned Hummingbird (*Trochilus alexandri*). Otto Holstein calls attention to the destruction of birds by petroleum along the railroads on the Colorado Desert. Where engines stand for any length of time in one place, the oil used for fuel drips down on the track, collects into little pools and soon becomes as thick as molasses. The birds evidently mistaking the oil for water, get into the pasty mass and are caught like flies on fly-paper.

Systematic ornithology is represented by the description of another new Song Sparrow from the northwest coast (*Melospiza cinerea phæa*, Fisher) and the recognition by Grinnell of the Fox Sparrow from Monterey county, California, originally described many years ago. Walter Fisher contributes a critical article on the Crested Jays of the Pacific coast which shows briefly but clearly the history and relations of the forms considered worthy of recognition. It is accompanied by a key and an outline sketch map and is a valuable addition to the literature of the genus *Cyanocitta*. The author is to be congratulated on presenting the results of his study in a way which might be adopted by others with advantage. Descriptions of west coast birds too often consist of new names and merely outlines of characters without proper indication of the relations which the new forms bear to the old.—T. S. P.

THE AUK.—The July Auk contains a large number of articles, and is illustrated by several half-tones. It opens with an

account of 'The Elepaio of Hawaii,' by H. W. Henshaw, two forms of this odd flycatcher being recognized. We find further along several annotated lists, one by O. Widmann, on birds of Wequetonsing, Mich., one by J. G. Wells on those of Carriacou Island, West Indies, and one by A. H. Clark on those of Margarita Island, Venezuela, in the last paper a Spine-tail (*Synallaxis albenscens nesiotis*) and an Oriole (*Icterus xanthornus helioides*) being described as new forms.

'Notes on the Specialized Use of the Bastard Wing,' by W. H. Fisher, is accompanied by photogravures throwing new light on the position in flight of this little 'packet' of feathers. Instantaneous photography has done much towards solving the complex problem of flight, and such contributions as Mr. Fisher's are of great value. J. Dwight, Jr., discusses 'Plumage-Cycles and the Relation Between Plumages and Moults,' and introduces a novel diagram that by the graphic method shows this relation in a number of species. O. P. Hay contributes 'On the Finding of the Bones of the Great Auk (*Plautus impennis*) in Florida,' and the southern range of an extinct species is thus extended. W. E. Saunders, who visited inaccessible Sable Island, Nova Scotia, in May, 1901, gives us some details concerning 'The Ipswich Sparrow in its Summer Home,' especially data of six nests secured with eggs. The 'Unusual Abundance of the Snowy Owl (*Nyctea nyctea*) in New England and Canada' during the past winter is vouched for by R. Deane, who, on the evidence of many correspondents, concludes that unusual incursions of the Owls recur about once in ten years.

The department of 'General Notes' is interestingly filled with large and small items, half-tone plates of the nest and eggs of the Red-shouldered Hawk and of the Ring-billed Gull, and of the carpenter work of the Pileated Woodpecker being inserted to illustrate some of the notes.

An 'Eleventh Supplement to the A. O. U. Check-List of 1886,' which occupies the concluding pages, furnishes food for

reflection. Stability in nomenclature is still only a dream, but, given the 'law of priority,' the 'process of elimination,' enough eager investigators, and an inflexible committee, and eventually we shall have a new outfit of fixed names, with pedigrees of synonyms in as direct descent as the kings of Assyria.—J. D., Jr.

JOURNAL OF THE MAINE ORNITHOLOGICAL SOCIETY.—This publication continues to improve in interest, each number containing contributions of permanent value of which mention should be made in these columns.

In the issue for January, 1902, No. 1, Vol. IV, we find, in addition to brief notes, a report of 'The Sixth Annual Meeting of the Maine Ornithological Society,' together with President Powers' address, delivered on this occasion; 'Some Ornithological Problems for Maine,' a timely communication on lines which might well be adopted at other State Ornithological Society meetings; a history of 'One Yellow Warbler Family,' by Homer R. Dill, which would be more valuable if the author had given definite dates of the various incidents he records; 'The Bluebird,' by Guy H. Briggs, in which the author deplores the decrease in the numbers of this species and at the same time records the collecting of five nests and five sets of five eggs each from one pair of Bluebirds between May 1, 1901, and July 6, 1901, when the birds, apparently both mentally and physically discouraged, abandoned further attempts at housekeeping!

Number 2, Vol. IV, April, 1902, contains 'A Trip to Muscongus Bay, Maine, July 4 and 5, 1901,' by Herbert L. Spinney, a writer who has contributed much interesting information in regard to coast-birds to the 'Journal'; 'Shooting Matches,' by F. F. Burt, condemning the practice of 'Side-Hunts,' which, it seems, are still indulged in by the "village loafers" of Maine; 'A Phoebe's Summer,' by C. H. Morrell; 'Winter Birds of Southern Pines, N. C.,' by C. H. Morrell, a group photograph of some of the members of the Society, and various notes.—F. M. C.

Bird-Lore

A Bi-monthly Magazine

Devoted to the Study and Protection of Birds

OFFICIAL ORGAN OF THE AUDUBON SOCIETIES

Edited by FRANK M. CHAPMAN

Published by THE MACMILLAN COMPANY

Vol. IV Published August 1, 1902 No. 4

COPYRIGHTED, 1902, BY FRANK M. CHAPMAN.

Bird-Lore's Motto:

A Bird in the Bush is Worth Two in the Hand.

THE eleventh supplement to the Check-List of North American Birds published by the American Ornithologists' Union in 1886, appears in the July 'Auk.' It practically covers the period from April, 1901, to April, 1902, and an examination of its contents reveals, in a measure, the activity prevailing during the past year in the technical side of the study of North American birds.

Thus we find that the committee has endorsed some thirty-nine and rejected twenty-seven proposed changes in names; has accepted as additions to our fauna some twenty-two new sub-species and two new species, and has refused to recognize ten proposed 'new' forms. In one year, therefore, over sixty additions or changes have been made in the Check-List and with action on over fifty cases postponed, the lay student may well ask whether zoölogical nomenclature is, after all, the end and not the means of zoölogical science.

On the surface the prospects for stability in the names of our birds are indeed discouraging. Of the original 1886 Check-List, the result of several years' work of a committee of experts, comparatively little remains in its original form, and each succeeding year shows no decrease in the number of proposed emendations and additions which the Committee on Revision is called upon to consider. Small wonder, then, if the student to whom a name is in truth a means, condemns in disgust the whole matter of nomenclature technicalities and at the same time the disturbers of the Check-List.

There are, however, as usual, two sides

to the matter. Changes in the Check-List, we have seen, are chiefly of two kinds, additions and emendations. The former are composed of 'new' forms including actually new discoveries and what may be termed deferred discoveries, when for example, in the light of further material, the supposed distinctness of certain forms becomes a demonstrable fact. For the past twenty years, it is true, as fuel for the species' maker fire has become less and less abundant, he has split what was left finer and finer until we seem to have now reached the limit in this direction, and there is hope that in time the fire may burn itself out from very lack of material to feed on.

But will we ever cease making those revisions in names which, to the amateur, seem so wholly unnecessary? The answer to this question depends on the absolute fixity with which the A. O. U. adheres to its original 'Code of Nomenclature' and the consistency with which it is interpreted. This code is based on two fundamental principles, priority and preoccupation. That is, beginning with Linnæus at 1758, the first specific name properly given to an animal is the one by which it shall be known, provided this name, combined with a similar generic term, is not preoccupied, in other words has not been used before in zoölogy.

No one can doubt the justness of these rules, but so vast and so scattered is the ornithological literature of the past one hundred and fifty years that often what was long thought to be the first name applied to a species is found to be antedated by a previously given name, while current names are frequently found to be invalid because they have been used before for some other animal.

It happens that at present we are passing through a period when much attention is being paid to this subject of names with correspondingly numerous 'discoveries' of long-standing errors in the nomenclature of our birds. But, eventually, provided the rules laid down are rigidly adhered to, we shall doubtless reach the stability we have so long sought and in the meantime we may welcome each change as a step toward this end.

The Audubon Societies

*"You cannot with a scalpel find the poet's soul,
Nor yet the wild bird's song."*

Edited by MRS. MABEL OSGOOD WRIGHT (President of the Audubon Society of the State of Connecticut), Fairfield, Conn., to whom all communications relating to the work of the Audubon and other Bird Protective Societies should be addressed. Reports, etc., designed for this department should be sent at least one month prior to the date of publication.

DIRECTORY OF STATE AUDUBON SOCIETIES

With names and addresses of their Secretaries

Maine.....	A. H. NORTON, Westbrook.
New Hampshire.....	MRS. F. W. BATCHELDER, Manchester.
Vermont.....	MRS. FLETCHER K. BARROWS, Brattleboro.
Massachusetts.....	MISS HARRIET E. RICHARDS, care Boston Society of Natural History, Boston.
Rhode Island.....	MISS HARRIET C. RICHARDS, 48 Lloyd ave., Providence.
Connecticut.....	MRS. WILLIAM BROWN GLOVER, Fairfield.
New York.....	MISS EMMA H. LOCKWOOD, 243 West Seventy-fifth street, New York City.
New Jersey.....	MISS JULIA SCRIBNER, 510 E. Front street, Plainfield, N. J.
Pennsylvania.....	MRS. EDWARD ROBINS, 114 South Twenty-first street, Philadelphia.
Delaware.....	MRS. WM. S. HILLES, Delamare Place, Wilmington.
Maryland.....	MISS ANNE WESTON WHITNEY, 715 St. Paul street, Baltimore.
District of Columbia.....	MRS. JOHN DEWHURST PATTEN, 2212 R street, Washington.
Virginia.....	MRS. FREDERICK E. TOWN, Glencarlyn.
North Carolina.....	I. GILBERT PEARSON, Greensboro.
South Carolina.....	MISS S. A. SMYTH, Legare street, Charleston.
Florida.....	MRS. I. VANDERPOOL, Maitland.
Missouri.....	AUGUST REESE, 2516 North Fourteenth street, St. Louis.
Ohio.....	MRS. D. Z. McCLELLAND, 5265 Eastern ave., Cincinnati.
Indiana.....	W. W. WOOLEN, Indianapolis.
Illinois.....	MISS MARY DRUMMOND, 208 West street, Wheaton.
Iowa.....	MRS. L. E. FELT, Keokuk.
Wisconsin.....	MRS. RUBEN G. THWAITS, 260 Langdon street, Madison.
Minnesota.....	MISS SARAH L. PUTNAM, 125 Inglehart street, St. Paul.
Wyoming.....	MRS. N. R. DAVIS, Cheyenne.
Kentucky.....	INGRAM CROCKETT, Henderson.
Tennessee.....	MRS. C. C. CONNER, Ripley.
California.....	MRS. GEORGE S. GAY, Redlands.

Reports of Societies

Illinois Audubon Society

The Illinois Audubon Society, having reached the mature age of five years, feels that while it can hardly claim for itself the title of 'ancient and honorable,' it has at least passed the period of infancy and can stand firmly upon its feet.

At the date of its fifth annual meeting, April 5, 1902, the number of members joining during the five years counted some 932 adults and 10,024 juniors, a total of 10,956.

We have sent out nearly 3,000 leaflets during the year and have published one pamphlet, a reprint of Mr. William Praeger's 'Birds in Horticulture,' a work of considerable value. We have also issued new membership cards for adults and pa-

pers to be signed by juniors. These were the result of much thought and careful work, and are proving themselves most satisfactory. Our new class of members, paying an annual fee of \$1, grows slowly but surely, and has already more than justified the wisdom of the change and confirms the opinion that no society should attempt its work without at least one class of members paying annual dues.

We have held our usual semi-annual and annual meetings. At the former, addresses were made by the president, Mr. Ruthven Deane, and Mrs. Sara A. Hubbard. At the latter, beside the usual business meeting, an address was given by Dr. J. Rollin Slonaker on 'Birds and Their Nests,' which was illustrated by very beautiful slides taken by Dr. Slonaker.

Very excellent work has been done by Mrs. Julia Edwards in the Fourteenth District of the Illinois Federation of Women's Clubs, Mrs. Edwards having formed Audubon committees in a number of the clubs, some of which are doing fine work. At the biennial meeting of the Federation in Los Angeles the Illinois birds had a spokesman in Mrs. Wheelock, of Evanston.

An 'Outline of Bird Study' for the use of teachers, etc., has been prepared by the Committee on Bird Study, giving lists of books, etc.

Some of the dreams we have been dreaming during these five years are becoming realities, and we now have two traveling libraries ready to start on their travels. Among the books are bound volumes of some of the bulletins issued by the Agricultural Department at Washington and the delightful Arbor and Bird Day Annuals published by the State of Wisconsin. Another dream—that of an illustrated lecture to be sent to schools, clubs, etc., throughout the state—will also soon become a delightful fact, and we hope to have it ready for work in the autumn. A third dream—a law incorporating Bird Day with Arbor Day—is still a dream—but we trust that, too, will materialize during the coming year.

The work of the Society has so increased that it has become necessary to make a separate department of the junior work, and Mrs. William M. Scudder, of 604 E. Division street, Chicago, has been made chairman of this department. An interesting feature of the junior work has been the response to an offer made in the little paper, 'By the Wayside,' of a prize for the best list of proverbs and familiar sayings about birds. The result was so surprising that *five* prizes were sent, the first going to a little Wisconsin girl of ten, who sent in a list of 320 such proverbs, etc.!

Very excellent work is done by some of our teachers and county superintendents of schools. Among the latter, that of Mr. Orville T. Bright and Mr. A. D. Curran is worthy of special mention.

Our latest work is the sending, in this 'leafy month of June,' to all the 550

wholesale and retail milliners of Chicago, as well as to some in our smaller towns, a short but clear statement of the state law on the purchase and sale of birds, with a few words of suggestion, appeal and warning. Inclosed with each of these statements sent to the Chicago milliners was a copy of Mr. William Dutcher's leaflet, 'Save the Birds.'

And so the good work goes on. Much has been done; more remains undone; but with such a noble board of directors as this Society is blessed with, it would be impossible for any secretary to feel otherwise than full of hope and of a good courage.

MARY DRUMMOND, *Secretary*.

Minnesota Audubon Society

At the annual meeting held April 5, 1902, John W. Taylor was elected president and Sarah L. Putnam, secretary, they being the officers of last year. The reports show a membership of at least 1,800, and more interest shown throughout the state this spring than at any time during the existence of the Society.

On April 10, the Society issued a circular stating that the Lacey Law would be enforced against all milliners and others having in their possession or offering for sale 'protected' dead birds, their skins or feathers. The woods and parks in and around the cities are being posted, giving notice to boys and others not to kill or annoy birds or their nests. The superintendents of the schools have been asked to see that Bird Day, April 18, be observed fully and the day devoted to the study of birds by the children. Literature has been sent out through the state, but on account of lack of funds this has been much more limited than we could have wished. Mr. F. M. Chapman delivered some very interesting lectures at different towns, which resulted in good to the cause.

A system of outdoor classes for bird study is being conducted by Professor Lange and promises to be very helpful. We have every reason to feel gratified at the success of the work already done. The want of funds cramps us exceedingly. Just how to secure money is a problem not yet solved.

There are several plans now under consideration, some of which it is hoped will be successful. We need all the literature bearing on our cause that any Society or person can send us.

SARAH L. PUTNAM, *Secretary*.

Audubon Society of Missouri

Under the auspices of its president, Mr. Walter J. Blakely, and secretary, Mr. August Reese, this Society has been conducting a careful investigation of the true condition of animal life in Missouri, at the same time endeavoring to find the cause of the too-evident decrease. The result is issued in a four-page circular containing both the questions put to various observers and the answers,—market and plume-hunters, boys who shoot, and the non-enforcement of the law, bearing the blame in this as in other states.

The following quotations, conclusions and suggestions are pertinent and suggestive of the conditions existing, though unacknowledged in many other states, for even where satisfactory bird laws obtain their enforcement is too often regarded as fanaticism.

"Reports furnished us, unquestionably reliable and accurate, almost stagger human belief. It proves that song and insectivorous birds decreased 62 per cent and game birds at the appalling rate of nearly 80 per cent within the past fifteen years. Deer are practically exterminated, excepting in a few inaccessible regions. Does any person doubt, unless sweeping reforms are inaugurated at once, that a few years hence will not witness the total annihilation of our birds and game?

"*Market and Plume-hunters*. In studying these reports, we find it an indisputable fact that the market and plume-hunter stands preëminent and alone as the greatest factor in the destruction of our birds and game. He simply reaps nature's products, slays whatever is of any commercial value to him in and out of season and does not consider the reproduction of the different species of any consequence and importance.

"*Sportsmen*. Numerous reports, from certain districts of the state where game is still fairly numerous, denounce in forcible language the enormous slaughter of game and birds by would-be sportsmen, simply because the opportunities to kill presented themselves. A true sportsman does not pride himself on the amount of game killed,

but practices moderation and deplores wanton destruction and waste. He is a lover of nature's creations, a close observer of an ever-changing landscape; the giants of the forest, the murmuring of a silvery stream, the camp meal at the mouth of some sparkling spring are closely associated with and play an important role in his pleasures and recreations a-field.

"*Boys Who Shoot*. The outcry against the havoc wrought by boys persecuting and killing birds, especially in or near cities, is very general and bitter. Probably no other agency of destruction has contributed so largely to the absence of birds so necessary to the animation of suburban landscape. With the opening of spring, heralded by the arrival of our feathered friends who have come to greet us with their cheerful songs and twitter, an army of boys will be found with bean-shooters or rifles eager to kill whatever birds may be in sight. Relentlessly are they persecuted, until it appears as if all birds had vanished from the face of the earth. Thickets and meadows are searched for the homes of the nesting birds and eggs collected and destroyed. 'Not that they are willfully wicked or cruel, but because they are thoughtless, and have not been properly taught or trained.'

"*English Sparrows*. The English Sparrows have increased remarkably. According to reports, they are the arch enemies of those birds most useful to agriculture. They wage an incessant war against all birds that are inclined to make their homes with us. Various methods have been employed to check and diminish their numbers, but unsuccessfully. Recently, farmers in adjoining townships in Ohio inaugurated a side hunt, with the result that over three tons of Sparrows were killed. It seems that this method may be adopted elsewhere, with beneficial results.

"*Non-enforcement of the Game Laws*. Great indignation is expressed at the non-enforcement of existing game laws. It is reported that they are violated openly and with impunity, and prosecutions have been made only in a few cases. This has been the indirect cause of greatly reducing the inhabitants of our forests and fields. Furthermore, existing game laws are very unsatisfactory to a majority of the sportsmen and persons having the welfare of our birds and game at heart, and they express their desire that the next Legislature will exercise due diligence in enacting more comprehensive and effective, yet liberal bird, and game laws. It is a recognized fact throughout the country that the fundamental principle of all bird- and game-protection is effective bird and game laws and their enforcement.

"*Destructive Agencies Besides those Enumerated.* We desire to call attention to the fact that other agencies, besides the destruction by human hands, also wield a large influence in the decrease of birds. Deforestation reduces their number largely. Species which inhabit thickets, with the clearing of the land are deprived of shelter for the rearing of their young and disappear as if by magic. With the draining of marshes and lowlands, other species of birds, that live in such places only, vanish forever. Cats destroy a great many birds which build their nests on or near the ground; so do foxes, weasels and other rodents. It will be seen that agencies over which we have no control in conjunction with those already enumerated are constantly and irresistibly at work, trying to break down the barriers which nature has thrown around bird-life for their protection and reproduction. Knowing this, it is so much more important that more stringent measures should be adopted forthwith to check those over which we do have control.

"*Conclusions.* Bird life in general is being exterminated at an appalling rate.

"Edible birds especially are persistently persecuted.

"Song and insectivorous birds are killed for food on account of scarcity of game birds.

"The extermination of all desirable birds is certain within a short period.

"The very existence of the deer—the monarch of the woods only a few years ago, roaming in countless numbers through our forest—is doomed.

"Bird and game laws as they now exist and as now enforced, are entirely inadequate to prevent the annihilation of our birds and game.

"*A Few Suggestions.* Prohibit the killing, capture, possession or sale—dead or alive—of wild birds, except game birds and a few noxious species.

"Prohibit the destruction of birds' nests or collection of eggs.

"Prohibit the sale of all dead game at all seasons of the year, for a certain period.

"There is no agency so well calculated to protect wild bird life as to prohibit its sale. The market hunter is robbed of his vocation, and the incentive to slaughter at all times of the year for commercial purposes is abolished. Experience has taught that this object is broad-gauged and purely in the interests of the masses and in direct line with the unerring laws of nature—reproduction.

"Restrict the number of game birds or game that may be taken or killed in one day or in a given time by a single individual.

"Prohibit the shipment of game outside the state.

"Prohibit the hunting of deer with dogs.

"Repeal what is known as the county act.

"No person should be denied the privilege of returning with the trophies of his chase, to enjoy same with his family at home.

"Prohibit the using of a gun for hunting without a license.

"It is gratifying to notice the strong sentiment sweeping across the state, demanding more stringent laws and their enforcement.

"The farmers are aware of the fact that the birds are 'the winged wardens of his farm' and his truest friends.

"The horticulturist recognizes the valuable services birds perform, and the tribute they levy on fruits at a certain time of the year is repaid a thousand fold by destruction of noxious insects.

"The true sportsmen are disheartened with the discouraging conditions confronting them when a-field.

"The fishermen know that a day's outing is fraught with uncertainties, as all our waters have been dynamited and seined of their finny inhabitants.

"Therefore, let us atone for the mistakes of the past, practice moderation in our pleasures, and encourage and protect God's noblest gift to mankind."

Fifth Annual Report of the Wisconsin Audubon Society

The Wisconsin Audubon Society was organized at Milwaukee in April, 1897. After four years of successful work its headquarters were transferred to Madison. This, the Fifth Annual Report, is the first issued from its new home.

Throughout its career the Society has had in view certain definite aims, the most important of which are:

1. The attempt to discourage the wearing of feathers of all birds, excepting those under domestication.

2. The preservation of our wild birds and their eggs.

3. The promotion of popular interest in bird-study.

In seeking to carry these into effect, the work has progressed along certain lines, as follows:

1. Under the direction of Mrs. Elizabeth G. Peckham, of Milwaukee, the continuance and further enrollment of the school branches already organized. These in-

clude as members both teachers and pupils, and are strong factors in spreading an interest in the Society's work. During the year just concluded, the membership thereof has increased from 13,441 to 17,858.

2. Publishing in conjunction with the Illinois Audubon Society, as the organ of both, a small monthly eight-page magazine, 'By the Wayside.' This is intended to interest both adults and children; the subscription price is 25 cents a year. Besides the 'Children's Department'—which is mainly filled with letters written by children about birds, for the best of which a prize or honor badge is awarded each month—'By the Wayside' has during the past year contained notes on bird-migration, book reviews, and scientific information along other lines of natural science. A similar editorial policy will hereafter be maintained.

3. The publication of Bulletin No. 1, 'Some Bird Problems for the Farmer,' written by Dr. O. G. Libby, of the University of Wisconsin.

4. The acquisition of nearly two hundred lantern-slides, seventy of which are colored. These are rented for a small sum to any school branch or local society desiring to use them. They have thus far been used at the following places: Milwaukee, White-water, Hillside, Medford, Hartford, Lake Forest, Kenosha, and Prescott.

5. Securing the passage by the state legislature of 1901, of a more efficient law (Chap. 196) for the protection of wild birds in Wisconsin.

6. The formation of classes at Madison, under competent guidance, for field-work in bird-study. During the spring of 1901, nearly two hundred different persons were present at these meetings. During the same spring a series of four lectures along this line, illustrated by lantern-slides and museum specimens, was given at the State University.

7. The circulation throughout the state, of the Gordon Library of ten bird books, the nucleus for which was presented to the Society in 1899, by Mrs. George Gordon of Milwaukee. During the past year there have been so many calls for these books that

the Society hopes to be able in the near future to purchase two similar collections.

Through the courtesy of the State Superintendent of Public Instruction, the 'Arbor and Bird Day Annual' for 1902, issued by his department, will again carry from the Audubon Society a message of invitation to each public school in the state to coöperate in this movement and to form a school branch. The success of these branches is almost entirely due to the intelligent assistance of the teachers, without which it would be impossible to carry on any organized work among the children of the commonwealth.

It is hoped that the coming year will bring to us many new members, as well as increased financial support. Contributions of money to be spent for the general work of the Society, or in some special manner indicated by the giver, are also much needed.

JESSIE T. THWAITES, Sec.

Bird-Protection Abroad

It is pleasing to note that the government authorities abroad are paying much attention to the protection of birds. According to a recent cable dispatch the Minister of Agriculture of Belgium has instructed that berry-bearing trees in the government forests shall remain untrimmed until the end of winter in order to allow the birds plenty of food. Hitherto they have been trimmed in October. It is not generally known how much birds contribute to the sanitary condition of the world; in fact, it has often been said that man could not live upon the earth were it not for the birds. Besides being a perennial delight to lovers of nature, the existence of bird-life is a necessity for the health of the people. During the past season, on some of our outings, we have noted more birds than for many previous years. American people better understand at the present time the need of the preservation of birds; but there is much still to be learned. Every sportsman should assume his share of the work in protecting our birds.—*Shooting and Fishing.*

NOTE.—A report from the Florida Audubon Society is of necessity postponed until our next issue.



ROBIN, NEST AND YOUNG

Photographed from nature, by A. L. Princehorn, Glen Island, N. Y., May 11, 1902

Bird = Lore

A BI-MONTHLY MAGAZINE
DEVOTED TO THE STUDY AND PROTECTION OF BIRDS

OFFICIAL ORGAN OF THE AUDUBON SOCIETIES

Vol. IV

SEPTEMBER — OCTOBER, 1902

No. 5

The Destructive Effects of a Hail-storm Upon Bird Life

BY H. McI. MORTON, M.D., Minneapolis, Minn.

THROUGH the familiar works of Gätke and others, through light-house reports, and through personal observation, ornithologists have been made conversant with the many remarkable accidents and fatalities which occur to our birds, and especially during the trying ordeal of migration. As an indication of one of these many possible vicissitudes in the life of a bird, I take pleasure in acceding to the editor's request that I write a brief report of the deadly effect upon bird life of an unusually severe hail-storm, accompanied by a very high wind, which occurred in Minneapolis during the summer of 1901.

After an afternoon and evening of threatening weather on August 25, a section of this city was visited by one of the most alarming and destructive rain- and hail-storms in the history of our local weather bureau. According to our imaginative — and I think pardonably so — newspaper reporter, "Hailstones as big as teacups, driven by a wind which gave them the momentum of a six-pound shell," were among the very unusual features of this sudden and alarming phenomenon. The path of the storm, which was not more than half a mile wide, passed through the central residence and park district of Minneapolis, and from a northwesterly to a southeasterly direction. Loring Park, the most central and attractive of our metropolitan reserves, suffered severely, trees being uprooted, branches torn, and foot-paths converted into great gullies three to four feet in depth; the pebbles, sand and mud thus carried away being deposited over the lower grassy areas of the park to a depth of from one to three feet. Added to this was the almost entire defoliation in certain areas of the park, due to the hail. That such results as these must of necessity have occurred will be evident from this extract which I take from the local weather report. These observations apply to the immediate region of the

park. They read: "It is estimated that not less than two inches of water fell in that vicinity during the fifteen minutes, while three inches would not be considered an extravagant estimate. The hailstones ranged in size from one-fourth to one and one-fourth inches in diameter, and were generally almost spherical. A gusty wind accompanied the hail and rain and a velocity of forty-eight miles per hour prevailed from 9:13 P. M. to 9:24 P. M., with an extreme one-mile velocity of sixty miles at 9:20 P. M." There can be no doubt that the hailstones ranged larger in certain areas than one and one-fourth inches; of that I assured myself at the time.

Loring Park is a spot favored by our summer resident birds, and great numbers of Bluejays, Robins, Bronzed Grackles, four or five species of Woodpeckers, and hosts of smaller birds more arboreal in habit—especially of the Vireo and Flycatcher families—are always to be seen here in the summer. Strange to say, a nest in this entire area of thirty or forty acres is a rarity; last year there was one—a Robin's; this year not one was built in the park. It is distinctively, then, a day feeding- and playground for the birds, but to few species a roosting place. It is due to these facts that so many species so frequently seen in the park in daytime were not to be found among the dead, mutilated and maimed birds on the day following the storm.

My interest in the bird life of this little beauty spot led me to make an early reconnaissance on the following morning. It was an unpleasant sight to behold old and familiar trees robbed of their protecting limbs and often uprooted, but, saddest of all, the park was a veritable avian graveyard. At the very entrance I picked up a Red-eyed Vireo, which had been knocked from the trees by the merciless hail and drowned in the torrents beneath. There were in evidence many others, yet the small and dull-colored birds were difficult to find, many being washed away into the lake near the center of the park or into the street mains, or lost in the accumulated debris of leaves, sticks and sand. In a few steps I picked up a score of Robins and Bluejays, and thus it was all over certain areas of the park. The Robins and Jays were of the few roosting species and suffered proportionately, constituting most of the dead birds found. The Bronzed Grackles, so numerous in daytime, were not to be found among the dead, indicating that they did not roost at all in the park. This was also true of many other species common in the locality. I had for days previous noticed a number of Black and White Creeping and Yellow-rumped Warblers in the park, but found none on the ground or among the debris; yet they could have been easily overlooked, for no doubt many hundreds of smaller birds found death or injury in the path of the storm, and could not be found for this reason. Many of the large birds were on this account found simply by accident—by a head, a wing or tail projecting from a pile of rubbish.

Not the least interesting feature was the manner and cause of death. Of course hundreds of birds lost their lives by the deadly effect of the hail direct, simply being knocked from the trees—many of which were leafless in a few minutes—and literally battered to death. This was clearly shown by the finding of many birds on higher and sloping ground, where drowning would have been impossible, and on whom no injuries were discernible. Others were knocked off their roosts into the paths below—which were now great torrents of water—and carried into the lake, or left in the deposit of sand and mud covering the lower grassy parts of the park. Many of these birds which I examined had no manifest external injury, and I felt it was a clear case of drowning.

But the very interesting feature to me was the birds whose bodies showed by deep gashes or penetrating wounds the bullet-like power of penetration of the hail when driven by a wind of sixty miles an hour. For instance, one bird had a penetrating wound on the right side of the back which completely entered the thorax and lacerated the thoracic viscera. I observed a number with somewhat similar injuries, and there could be no doubt but that they were all caused by the hail. Here death must have been instantaneous. The saddest evidence of the storm was found in the great number of wounded Robins I found all about me. One poor Robin—a fine big fellow—had received a crack from the winged ice that shattered a portion of the bony arch over the eye and produced complete exophthalmos (protrusion of the eye). Death seemed nigh, and to him—as well as to many others—I gave release from their suffering. I found no wounded Jays; possibly those not killed outright had greater staying power than the Robins, and escaped from the inhospitable park. According to the press, "One effect of the hail was the dispatching of English Sparrows. Thousands of the little birds lay about the ground this morning underneath where they had been roosting before stricken by the ice pellets." I am convinced this statement is an exaggeration. A great many Sparrows were killed in all those parts of the city which lay in the path of the storm, but by the very nature of their roosting habits, so familiar, they were immuned in much larger measure than other birds.

Severe hail-storms over the northwestern portions of the United States are of common occurrence, and especially over the prairie regions of North and South Dakota. Each summer areas of miles in extent are visited by such phenomena and attended with great destruction to the crops and vegetation generally. As such storms are 'a hot-weather product,' and occur frequently during the nesting period and soon after, I have no doubt many birds are lost each year in this manner..

Finally, is not a subject of unusual interest suggested by the incidents just recited? When we remember that millions upon millions of birds must die each year, is it not remarkable that we observe so few decrepit,

deformed or diseased birds, and how seldom while 'in the field,' and under usual conditions, we find the bodies, or skeletal remains, of a bird? True, one does see such occasionally on the plains, in wooded districts and along the lake shores, that have probably fallen prey to the raptorial or small mammals, but such findings are a numerically insignificant portion of the great host of birds which meet death each year. How, then, ends all this myriad avian host? Countless numbers, no doubt, fall prey to hungry birds and beasts—stronger links in the evolutionary chain—no evidence remaining to show a bird existed. Many eggs and nestlings fall to the reptiles, as well as to Crows, Jays and their near of kin, whose fledgling proclivities are well known. The deadly lighthouse claims its thousands of sacrifices, and the 'small boy' and the hunter add their quota to the death roll.

To these, what we may call, external death factors, I am inclined to believe we may add flood and hail, and I believe this applies with especial force and fitness to our prairie avifauna, so varied and so numerous in the great northwest country—the Dakotas, northern Minnesota and the Canadian plains still to the north. Here countless hosts of birds spend their summers and rear their broods. Over these districts hail-storms are of such frequency and intensity as to justify the belief that, compared to these causes, the work of the lighthouse and the hunter must be insignificant.



DOUBLE-CRESTED CORMORANTS

Photographed from nature, by Frank M. Chapman, Shoal Lake, Manitoba, July, 1901



WHAT THE EGGS WERE IN



WHAT WAS IN THE EGGS

NEST, EGGS AND YOUNG OF RED-WINGED BLACKBIRD

Photographed from nature, by C. G. Aobbt

A Goldfinch Idyl

BY ELLA GILBERT IVES

DO you know of any far-away pasture where, in blueberry time, Sparrows play hide-and-seek in the bushes, and Finches are like little golden balls tossed on the breeze? It was in such a field that my Goldfinch found the thistle-down for her soft couch—*her* couch, observe, for it was the dull mate in greenish olive that made the bed.

I was there when the maple twig was chosen for the nest—as good luck would have it, close by our cottage door and in plain sight from my window. The choice was announced by a shower of golden notes from the male bird, and a responsive twitter from his mate. She began building at once, quickly outlining the nest with grasses and bark. Her approach was always heralded by a burst of song from her mate, who hovered near while she deftly wove the pretty fabric and then flew away with him to the base of supply.

It was August 2 when the nest began. I quote from my note-book:

"August 3. I observed the work closely for an hour. The working partner made eighteen trips, the first eleven in twenty-two minutes, grass and thistle-down being brought; the last nine trips only down, more time being taken to weave it into the walls. The male warbled near by, and twice flew into the tree and cheered his industrious mate with song.

"August 5. The home growing. The female tarries much longer at the nest, fashioning the lining.

"August 6. Both birds sing while flying to and from the nest.

"August 7. Nest completed. The mother-bird has a little 'song of the nest'—a very happy song. Think an egg was laid today.

"August 11. The male Goldfinch feeds his mate on the nest. Flies to her with a jubilant twitter, his mouth full of seeds. She eagerly takes from him from twelve to twenty morsels. They always meet and part with a song. Once the brooding mate grew impatient, flew to the next tree to meet her provider, took eight or ten morsels, then flew with him to the nest and took twelve more. A generous commissary!

"August 17. Breakfast on the nest; twenty-three morsels from one mouthful. How is it possible for song to escape from that bill before the unloading? Yet it never fails."

Here the record comes to an untimely stop, the reporter being suddenly called home. But the following year nature's serial opened at the same leaf.

Toward the last of July, a steady increase in Goldfinch music and a subtle change in its meaning marked the approach of nesting time. Again I quote from my journal:

"August 8. My careful search was rewarded by the discovery of a Goldfinch's nest, barely outlined, in the rock-maple near the former site, but on the road side of the tree. That my bird friends had returned to the old treestead I could not doubt, as they bore my scrutiny with unconcern. In six days the nest was completed. The builder flew to the brook and drank with her mate, but rarely stayed away long enough for food supply; that was carried to her and received on the nest.



NEST AND EGGS OF AMERICAN GOLDFINCH

From nature, by C. William Beebe

"August 18. An episode; a rival male flew to the home-tree with the male Goldfinch, both singing delightfully and circling about the nest. The mate, much excited, several times flew from the nest and joined in the discussion. Two bouts between the males ended in the discomfiture of Number two, and the return of my Goldfinch with a victor's song.

"August 20. The course of true love now ran smooth, and Goldfinch, sure of his intrenched affection, sang less volubly. The female, delicately sensitive of ear, apparently recognizes the voice of her mate,

and never fails to respond. Other Goldfinches flew by in song, calling and singing, but only one appealed to her.

"August 25 was a red-letter day in Goldfinch annals; then, and only then, I saw the male on the nest fed by his mate. The male then shares incubation? He certainly gave it a trial, but, so far as my observation goes, found it too confining to be repeated.

"August 29. 'Out today,' as the newsboy cries—the female's elevation on the nest determined that. Her eagerness now overcame caution, and she flew straight to the nest instead of in round-about course. Both parents fed the young.

"August 30. In a single trip the male Goldfinch brought forty morsels to the family, his mate eager to get her 'thirds,' but as soon as he had gone she slipped off the nest and fed the young. This method was pursued for three days.

"Sept. 1. The female very active at the nest making toilets of young, reassuring them with tender syllables when a red squirrel ran up the tree with alarming sounds. I saw three open mouths. The brooding bird went for food and returned stealthily to the nest. The male came once, but brought nothing, and henceforth was an idle partner.

"Sept. 6. Young birds, having found their voices, announced meal-time with joyous twitter. They were fed, on an average, once in forty-five minutes, and were now forming cleanly habits, like young Swallows, voiding excrement over the rim of the nest.

"Sept. 8. The old bird no longer perching at the nest to feed her young, but on the branch, to lure them from their cradle. They shook their wings vigorously and preened their tiny feathers.

"Sept. 10. Young Finches ventured to the edge of the nest and peered curiously into the unknown.

"Sept. 11. An empty nest."



The Massachusetts Audubon Society's Bird-Lists

ONE of the means employed by the Massachusetts Audubon Society to interest its members in the practical side of bird study is an invitation to make lists of the birds noted in the state during the year, blanks being furnished for the purpose of properly recording observations. The best ten lists received by the secretary for the Society for the last year were made by the following members: Richard S. Eustis, Cambridge, 145 species; Mrs. L. E. Bridge, West Medford, 125 species; Elizabeth S. Hill, West Groton, 116 species; Lilian Cleveland, West Medford, 111 species; Isabel B. Holbrook, Milton or Rockland, 107 species; Abby W. Christensen, Brookline, 107 species; Louise Howe, Brookline, 103 species; Bertha Langmaid, Boston, 99; James See Peters, Jamaica Plain, 90; Mrs. W. H. Simonds, Bedford, 89. The three first mentioned lists are published herewith.

Blanks for recording the species observed from July 1, 1902, to July 1, 1903, will be furnished to members of the Society by its secretary, Miss Harriet E. Richards, Boston Society of Natural History.

NAME OF SPECIES	List of Birds observed by Richard S. Eustis, Cam- bridge, Mass., from May 19, 1901, to May 19, 1902.		List of Birds ob- served by Eliza- beth S. Hill, West Groton, Mass., from Mar. 1, '01, to July 1, '02.		List of Birds observed by Mrs. L. E. Bridge, West Medford, Mass., from July 1, 1901, to July 1, 1902.	
	Locality	Date	Locality	Date	Locality	Date
Holboell's Grebe . . .	Nahant . .	Dec. 31, '01				
Horned Grebe . . .	Marblehead	Nov. 16, '01				
Pied-billed Grebe . .	Lexington	June 10, '01	Groton	July 30,		
Loon	Ipswich . .	Oct. 26, '01			Middlesex Fells	Mar. 24, '02
Parasitic Jaeger . . .	Ipswich . .	Aug. 30, '01				
Kittiwake	Ipswich . .	Jan. 12, '02				
Great Black-backed Gull	Marblehead	Aug. 29, '01			Ipswich	Mar. 12, '02
American Herring Gull	Marblehead	July 7, '01			Ipswich	Mar. 12, '02
Common Tern	Rockport .	Aug. 1, '01			Providence . . .	July 17, '01
Red-breasted Mergan- ser	Ipswich . .	Oct. 26, '01				
Black Duck	Belmont . .	May 25, '01	Groton	Mar. 22, '	Middlesex Fells	Sept. 22, '01
Wood Duck	Belmont . .	May 2, '02	Groton	April 1,		
Lesser Scaup Duck . .	Cambridge	Oct. 31, '01				
American Golden-eye.	Boston . .	Oct. 18, '01			Boston	Jan. 1, '02
Bufflehead					Ipswich	Mar. 12, '02
Old-squaw	Ipswich . .	Oct. 26, '01				
White-winged Scoter .					Cohasset	Sept. 19, '01
Surf Scoter	Nahant . .	Feb. 15, '02				
Ruddy Duck	Marblehead	Oct. 9, '01				
Canada Goose			Groton	Mar. 13,		
American Bittern . . .	Belmont* .	May 22, '01	Groton	April 4, '	Cohasset	Sept. 23, '01

* Heard

List of Birds observed by
Richard S. Eustis, Cam-
bridge, Mass., from May
19, 1901, to May 19,
1902.

List of Birds ob-
served by Eliza-
beth S. Hill, West
Groton, Mass.,
from Mar. 1, '01,
to July 1, '02.

List of Birds observed by Mrs.
L. E. Bridge, West Medford,
Mass., from July 1, 1901, to
July 1, 1902.

NAME OF SPECIES	Locality	Date	Locality	Date	Locality	Date
Great Blue Heron . . .	Marblehead	Aug. 10, '01	Groton	May 6, .	Middlesex Fells	Sept. 22, '01
Green Heron	Cambridge	May 20, '01	Groton	Aug. 20, .	Middlesex Fells	Aug. 8, '01
Black-crowned Night Heron	Middlesex Fells	June 8, '01	Groton	Apr. 24, .	Concord	Apr. 19, '02
Virginia Rail	Cambridge*	May 26, '01	. . . . .	. . . . .	Cambridge*	May 15, '02
Sora	Cambridge*	May 20, '01	. . . . .	. . . . .	Cambridge*	May 15, '02
American Woodcock .	Belmont . .	Dec. 8, '01	Groton	Mar. 31, .		
Wilson's Snipe	Cambridge	April 3, '02				
Red-backed Sandpiper .	Ipswich . .	Oct. 26, '01				
Semipalmated Sandpi'r	Marblehead	Oct. 10, '01				
Sanderling	Rockport .	Aug. 2, '01	. . . . .	. . . . .	Cohasset	Aug. 18, '01
Greater Yellow-legs . .	Ipswich . .	Aug. 30, '01				
Solitary Sandpiper . .	Rockport .	Aug. 2, '01	Groton	May 3, .	Medford	May 11, '02
Bartramian Sandpiper .	Belmont . .	April 4, '02				
Spotted Sandpiper . .	Cambridge	May 24, '01	Groton	April 4, .	Medford	Aug. 11, '01
Black-bellied Plover . .	Ipswich . .	Aug. 30, '01				
Killdeer	Belmont . .	Oct. 19, '01				
Semipalmated Plover .	Ipswich . .	Oct. 26, '01				
Bob-white	Belmont*	May 22, '01	Groton	April 6, .	Waltham	May 24, '02
Ruffed Grouse	Arlington .	June 8, '01	Groton	Jan. 30, .	Medford	Sept. 22, '01
Mourning Dove			Groton	May 21, .		
Marsh Hawk	Belmont . .	May 23, '01	Groton	Mar. 27, .	Medford	Oct. 20, '01
Sharp-shinned Hawk . .	Belmont . .	May 23, '01	. . . . .	. . . . .	Medford	Sept. 28, '01
Cooper's Hawk	Arlington .	April 3, '02				
Red-tailed Hawk . . .	Concord . .	Oct. 20, '01	Groton	May 30, .	Medford	Feb. 16, '02
Red-shouldered Hawk .	Belmont . .	May 31, '01	Groton	Mar. 10, .	Medford	Mar. 24, '02
Rough-legged Hawk . .	Cambridge	Dec. 8, '01				
Bald Eagle			Groton	May 6, .		
Amer. Sparrow Hawk . .	Belmont . .	May 25, '01	Groton	Apr. 29, .	Medford	Apr. 14, '02
American Osprey . . .	Marblehead	Oct. 5, '01	Groton	Mar. 16, .	Middlesex Fells	Sept. 22, '01
Long-eared Owl	Arlington .	Jan. 26, '02				
Screech Owl	Cambridge*	Nov. 6, '01	Groton	Dec. 30, .		
Great-horned Owl . . .			Groton	Jan. 20, .		
Yellow-billed Cuckoo . .	Cambridge	May 24, '01	Groton	May 10, .	Medford	May 11, '02
Black-billed Cuckoo . .	Belmont . .	May 31, '01	Groton	May 8, .	Medford	May 9, '02
Belted Kingfisher . . .	Cambridge	May 21, '01	Groton	Apr. 19, .	Medford	May 5, '02
Hairy Woodpecker . . .	Concord . .	Oct. 20, '01	Groton	Jan. 20, .	Concord	Mar. 25, '02
Downy Woodpecker . .	Belmont . .	May 22, '01	Groton	Jan. 30, .	Medford	Oct. 2, '01
Yellow-bellied Sap- sucker	Marblehead	Sept. 26, '01	. . . . .	. . . . .	Medford	Sept. 28, '01
Red-headed Wood- pecker						
Flicker	Cambridge	May 19, '01	Groton	Jan. 25, .	Newton	July 24, '01
Whip-poor-will	Concord . .	June 17, '01	Groton	Apr. 14, .	Medford	Feb. 16, '02
Nighthawk	Marblehead	Sept. 23, '01	Groton	May 16, .	Medford	Aug. 18, '01
Chimney Swift	Cambridge	May 20, '01	Groton	May 7, .	Medford	May 4, '02
Ruby-throated Hum- ming-bird	Belmont . .	May 31, '01	Groton	May 15, .	Medford	May 11, '02
Kingbird	Cambridge	May 20, '01	Groton	May 7, .	Medford	May 8, '01
Crested Flycatcher . . .			Groton	May 7, .	Middlesex Fells	May 11, '02
Phoebe	Belmont . .	May 23, '01	Groton	Mar. 13, .	Medford	Apr. 16, '02
Olive-sided Flycatcher .					Greylock	June 14, '01
Wood Pewee	Arlington .	May 26, '01	Groton	May 7, .	Medford	May 18, '01

* Heard

NAME OF SPECIES	List of Birds observed by Richard S. Eustis, Cam- bridge, Mass., from May 19, 1901, to May 19, 1902.		List of Birds ob- served by Eliza- beth S. Hill, West Groton, Mass., from Mar. 1, '01, to July 1, '02.		List of Birds observed by Mrs. L. E. Bridge, West Medford, Mass., from July 1, 1901, to July 1, 1902.	
	Locality	Date	Locality	Date	Locality	Date
Alder Flycatcher . . .	Belmont . .	June 22, '01			Waltham . . .	May 24, '02
Least Flycatcher . . .	Cambridge	May 19, '01	Groton	Apr. 24, . .	Medford . . .	Apr. 27, '02
Horned Lark	Ipswich . .	Oct. 20, '01	Seen	this winter		
Blue Jay	Cambridge	May 21, '01	Groton	Jan. 10, . .	Medford . . .	May 11, '02
American Crow . . .	Cambridge	May 12, '01	Groton	Jan. 10, . .	Medford . . .	July 1, '02
Bobolink	Cambridge	May 20, '01	Groton	May 7, . .	Concord . . .	May 28, '02
Cowbird	Belmont . .	May 29, '01	Groton	Mar. 31, . .	Medford . . .	April 4, '02
Red-winged Blackbird	Cambridge	May 19, '01	Groton	Mar. 13, . .	Ipswich . . .	Mar. 12, '02
Meadowlark	Cambridge	May 21, '01	Groton	Jan. 26, . .	Ipswich . . .	Mar. 12, '02
Orchard Oriole			Groton	May 23, . .	North Adams	June 15, '02
Baltimore Oriole . . .	Cambridge	May 19, '01	Groton	May 8, . .	Medford . . .	May 4, '02
Rusty Blackbird . . .	Cambridge	Oct. 21, '01	Groton	Mar. 31, . .		
Bronzed Grackle . . .	Cambridge	May 19, '01	Groton	Mar. 2, . .	Medford . . .	Mar. 13, '02
Pine Grosbeak			Groton	Mar. 17, . .		
Purple Finch	Belmont . .	May 31, '01	Groton	Apr. 15, . .	Medford . . .	Apr. 14, '02
Redpoll			Groton	Feb. 4, . .		
American Goldfinch . .	Cambridge	May 19, '01	Groton	Jan. 1, . .	Medford . . .	Mar. 3, '02
Pine Siskin	Cambridge	Dec. 4, '01	Groton	Jan. 20, . .	Medford . . .	Oct. 27, '01
Snowflake	Ipswich . .	Oct. 26, '01	Groton	Mar. 1, . .		
Lapland Longspur . . .	Ipswich . .	Jan. 12, '02				
Vesper Sparrow	Waltham . .	May 25, '01	Groton	Apr. 17, . .	Medford . . .	Apr. 20, '02
Ipswich Sparrow	Ipswich . .	Oct. 26, '01				
Savanna Sparrow . . .	Lincoln . .	Nov. 2, '01			Medford . . .	Apr. 23, '02
Grasshopper Sparrow . .	Lincoln . .	May 18, '02	Groton	Apr. 26, . .	Concord . . .	May 28, '02
White-crowned Spar'w	Belmont . .	May 17, '02	Groton	May 17, . .		
White-throated Spar'w	Cambridge	May 20, '01	Groton	Apr. 21, . .	Medford . . .	Apr. 23, '02
Tree Sparrow	Lexington .	Oct. 27, '01	Groton	Jan. 30, . .	Medford . . .	Mar. 3, '02
Chipping Sparrow . . .	Cambridge	May 19, '01	Groton	Apr. 16, . .	Medford . . .	Apr. 20, '02
Field Sparrow	Arlington .	May 22, '01	Groton	Mar. 31, . .	Medford . . .	Apr. 20, '02
Slate-colored Junco . .	Marblehead	Sept. 25, '01	Groton	Mar. 18, . .	Greylock . . .	June 14, '02
Song Sparrow	Cambridge	May 19, '10	Groton	Mar. 10, . .	Medford . . .	Mar. 3, '02
Swamp Sparrow	Cambridge	May 19, '01	Groton	Apr. 19, . .	Medford . . .	May 11, '02
Fox Sparrow	Lexington .	Oct. 27, '01	Groton	Mar. 13, . .	Medford . . .	Mar. 22, '02
Towhee	Mid'd'sex Fells	May 26, '01	Groton	May 4, . .	Medford . . .	May 1, '02
Rose-breasted Grosbeak	Cambridge	May 21, '01	Groton	May 7, . .	Medford . . .	May 9, '02
Indigo Bunting	Arlington .	May 21, '01	Groton	May 17, . .	Medford . . .	May 11, '02
Scarlet Tanager	Belmont . .	May 23, '01	Groton	May 17, . .	Medford . . .	May 9, '02
Purple Martin	Concord . .	June 15, '01	Groton	Apr. 15, . .	Concord . . .	May 28, '02
Cliff Swallow	Cambridge	May 20, '01	Groton	Apr. 22, . .	Cambridge . .	May 15, '02
Barn Swallow	Cambridge	May 20, '01	Groton	Apr. 9, . .	Concord . . .	Apr. 19, '02
Tree Swallow	Cambridge	May 20, '01	Groton	Mar. 31, . .	Concord . . .	Apr. 19, '02
Bank Swallow	Cambridge	May 25, '01	Groton	Apr. 25, . .	Concord . . .	May 28, '02
Rough-winged Swal'w					North Adams	June 17, '02
Cedar Waxwing	Arlington .	May 22, '01	Groton	Jan. 30, . .	Medford . . .	Oct. 6, '01
Northern Shrike	Cambridge	Nov. 14, '01	Groton	Jan. 29, . .	Medford . . .	Mar. 23, '02
Red-eyed Vireo	Cambridge	May 21, '01	Groton	May 8, . .	Medford . . .	May 12, '02
Warbling Vireo	Cambridge	May 19, '01	Groton	May 6, . .	Medford . . .	May 9, '02
Yellow-throated Vireo	Cambridge	May 20, '01	Groton	May 4, . .	Medford . . .	May 8, '02
Blue-headed Vireo . . .	Arlington .	Apr. 27, '02	Groton	Apr. 25, . .	Medford . . .	May 12, '02
White-eyed Vireo . . .			Groton	May 5, . .	Belmont . . .	June 7, '02
Black and White War- bler	Belmont . .	May 21, '01	Groton	Apr. 23, . .	Medford . . .	Apr. 27, '02
Golden-w'ed Warbler	Belmont*	May 22, '01			Medford . . .	May 9, '02

NAME OF SPECIES	List of Birds observed by Richard S. Eustis, Cam- bridge, Mass., from May 19, 1901, to May 19, 1902.		List of Birds ob- served by Eliza- beth S. Hill, West Groton, Mass., from Mar. 1, '01, to July 1, '02.		List of Birds observed by Mrs. L. E. Bridge, West Medford, Mass., from July 1, 1901, to July 1, 1902.	
	Locality	Date	Locality	Date	Locality	Date
Nashville Warbler . . .	Lexington .	May 23, '01	Groton	May 13, .	Medford . . .	May 7, '02
Northern Parula War- bler . . .	Cambridge*	May 24, '01	Groton	Apr. 30, .	Medford . . .	May 9, '02
Cape May Warbler . . .			Groton	May 8, .		
Yellow Warbler . . .	Cambridge	May 19, '01	Groton	May 30, .	Medford . . .	May 4, '02
Black - throated Blue Warbler . . .	Boston . .	May 14, '01	Groton	Apr. 30, .	Medford . . .	May 11, '02
Myrtle Warbler . . .	Cambridge	May 20, '01	Groton	Apr. 22, .	Medford . . .	May 7, '02
Magnolia Warbler . . .	Cambridge	May 22, '01	Groton	May 12, .	Medford . . .	May 9, '02
Chestnut-sided Warb'r	Belmont . .	May 23, '01	Groton	May 20, .	Medford . . .	May 8, '02
Bay-breasted Warbler					Medford . . .	May 20, '02
Blackpoll Warbler . . .	Cambridge	May 20, '01	Groton	May 8, .	Medford . . .	May 20, '02
Blackburnian Warbler	Arlington .	May 26, '01	Groton	May 16, .	Greylock . . .	June 15, '02
Black-throated Green Warbler	Belmont .	May 21, '01	Groton	Apr. 29, .	Medford . . .	July 14, '02
Pine Warbler	Arlington*	May 21, '01	Groton	Apr. 5, .	Medford . . .	June 8, '02
Yellow Palm Warbler	Swampscott	Sept. 26, '01	Groton	Apr. 20, .	Medford . . .	Apr. 27, '02
Prairie Warbler	Arlington .	May 30, '01	Groton	May 14, .	Medford . . .	May 21, '02
Ovenbird	Arlington .	May 21, '01	Groton	May 6, .	Medford . . .	May 4, '02
Water-thrush	Cambridge	May 20, '01	Groton	May 25, .	Cambridge . . .	May 27, '02
Mourning Warbler . . .					Greylock . . .	June 16, '02
Maryland Yellow-throat	Cambridge	May 19, '01	Groton	May 3, .	Medford . . .	May 8, '02
Yellow-breasted Chat .					Medford . . .	May 21, '02
Wilson's Warbler	Cambridge	May 19, '01	Groton	May 15, .	Medford . . .	May 20, '02
Canadian Warbler	Cambridge	May 22, '01	Groton	May 25, .	Medford . . .	May 19, '02
American Redstart . . .	Cambridge	May 19, '01	Groton	May 10, .	Medford . . .	May 4, '02
American Pipit	Marblehead	Oct 7, '01				
Catbird	Cambridge	May 20, '01	Groton	May 6, .	Belmont . . .	May 3, '02
Brown Thrasher	Belmont . .	May 22, '01	Groton	Apr. 20, .	Medford . . .	May 5, '02
House Wren	Belmont . .	May 31, '01	Groton	June 3, .	Belmont . . .	May 3, '02
Winter Wren	Marblehead	Oct. 9, '01			Concord . . .	Oct. 1, '01
Short - billed Marsh Wren					Belmont . . .	July 10, '01
Long - billed Marsh Wren	Cambridge	May 25, '01			Cambridge . . .	May 15, '02
Brown Creeper	Cambridge	Nov. 2, '01	Groton	Jan. 25, .	Concord . . .	Oct. 1, '01
White-breasted Nut- hatch	Arlington .	May 21, '01	Groton	Jan. 26, .	Medford . . .	Nov. 10, '01
Red-breasted Nuthatch	Marblehead	Oct. 3, '01	Groton	Dec. 28, .	Medford . . .	Sept. 22, '01
Chickadee	Cambridge	May 19, '01	Groton	Jan. 30, .	Medford . . .	May 8, '02
Golden-crowned King- let	Marblehead	Sept. 26, '01	Groton	Jan. 25, .	Medford . . .	Sept. 22, '01
Ruby-crowned Kinglet	Marblehead	Sept. 26, '01	Groton	Apr. 23, .	Carlisle . . .	Apr. 19, '02
Wood Thrush	Belmont . .	May 22, '01	Groton	May 15, .	Medford . . .	May 7, '02
Wilson's Thrush	Cambridge	May 21, '01	Groton	May 17, .	Medford . . .	May 11, '02
Olive-backed Thrush . . .	Cambridge	May 24, '01	Groton	May 21, .	Medford . . .	May 20, '02
Hermit Thrush	Arlington .	Oct. 19, '01	Groton	Apr. 17, .	Medford . . .	Apr. 25, '02
American Robin	Cambridge	May 19, '01	Groton	Feb. 28, .	Medford . . .	Jan. 8, '02
Bluebird	Belmont . .	May 21, '01	Groton	Mar. 1, .	Ipswich . . .	Mar. 12, '02

* Heard

For Teachers and Students

How to Name the Birds

STUDIES OF THE FAMILIES OF PASSERES

BY FRANK M. CHAPMAN

SIXTH PAPER

FAMILY 14. WRENS, THRASHERS, ETC. *Troglodytidae*.

Range.—The Wrens (subfamily *Troglodytinae*) number some 150 species, all but a dozen of which are confined to the western hemisphere, where they are distributed from Patagonia to Labrador and Alaska. Fourteen species inhabit America north of Mexico, eight of these occurring east of the Mississippi.

The Thrashers (subfamily *Miminae*) number some 50 species and are confined to America. Eleven species inhabit the United States, of which only three, the Brown Thrasher, Catbird and Mockingbird, are found east of the Mississippi.

Season.—Our Wrens, with the exception of the Carolina Wren and Bewick's Wren, are migratory. One species, the Winter Wren, comes from the north in the fall, reaching the latitude of New York city about September 22 and remaining until April; the others come from the south, appearing late in April and early in May and leaving us in October.

The Mockingbird is migratory only at the northern limit of its range; our other representatives of the *Miminae*, the Thrasher and Catbird, are both migratory, coming late in April and remaining until October.

Color.—Shades of brown and gray are the characteristic colors of the Wrens and Thrashers, as they are of most brush- and thicket-haunting birds. With the Wrens fine black markings are common; with the Thrashers and Mockers solid colors prevail.

External Structure.—Although differing so markedly in general appearance (compare a House Wren and Brown Thrasher, for example), the Wrens and Thrashers possess many points of structure in common, and when some of the larger tropical Wrens are examined their resemblance to the Thrashers is obvious. Both Wrens and Thrashers have scaled tarsi, rounded or graduated tails, the outer feathers being, as a rule, much the shortest, and the outer primary is about half as long as the longest.

Appearance and Habits.—The nervous, excitable manner of our House Wren and its habit of holding the tail erect or even pointing toward its head, is characteristic of most of the members of this group, though with the largest Wrens the tail is not held upright. With the Thrashers and



WRENS, THRASHERS, ETC. Family *Troglodytidae*. (One-third natural size)

Brown Thrasher

House Wren

Carolina Wren

Catbird

Mockers the tail is also important in gesture, the white markings on the tail of the latter being conspicuously displayed by a spreading of the feathers. Both Wrens and Thrashers inhabit the lower growth, the former being more secretive than the latter.

Song.—Wrens and Thrashers are distinguished among birds for their powers of song. Our Mockingbird is probably unexcelled as a songster by other members of his genus, but there are numerous species of Mockingbirds, one ranging as far south as Patagonia, which sing equally well, while some of the southern Thrashers and Wrens even exceed ours in musical ability.

FAMILY 15. CREEPERS. *Certhiidae*.

Range.—Of the dozen or more species included in this family only one, the Brown Creeper, reaches the New World, the others being distributed over the larger part of the eastern hemisphere.

Season.—The Brown Creeper nests from northern New England northward, and in the western United States his racial representatives all extend south along the Rocky mountains to southern Mexico. In the east it migrates southward late in September and returns about May 1, wintering from northern New England to the Gulf States.

Color.—With the exception of the European Wall Creeper, which has rose markings in the wings, the Creepers are dull, neutral-tinted birds, the streaked brown of our species bringing it into close harmony in color with the bark of trees which it frequents.

External Structure.—The slender, curved bill and especially the stiffened, pointed tail-feathers are the most noticeable characteristics of our Creeper, but the latter feature is not shared by all the members of the family, some of which have soft, rounded tail-feathers.



BROWN CREEPER. Family *Certhiidae*
(One-third natural size)

Appearance and Habits.—The Creeper's distinguishing trait is made known by its name. In ascending trees it uses the tail, as do the Woodpeckers, for a prop or support; and we have here, therefore, an interesting instance of the development of similar structure, among birds distantly related, as a result of similar habit.

Song.—The Brown Creeper's usual note during the winter is a faint *seep*. To the birds inhabiting Maine is attributed a song 'exquisitely pure and tender,' but the song of those I heard in Mexico was a decidedly mediocre, squeaky performance.



White-breasted Nuthatch

TITMICE AND NUTHATCHES. Family *Paridae*. (One-third natural size)

Red-breasted Nuthatch

Chickadee

Tufted Titmouse

FAMILY 16. TITMICE AND NUTHATCHES. *Paridae*.

Range.—As is the case with most northern families of birds, the *Paridae* have representatives in both the New and Old Worlds. The Titmice number some 75 species, of which 19 are American, 7 of these being found north of Mexico and four of them east of the Mississippi.

The Nuthatches number some 20 species, only four of which are American, all of these being found from Mexico northward and three of them east of the Mississippi.

Season.—Our Titmice and Nuthatches are, as a rule, only slightly but regularly migratory. The Red-breasted Nuthatch, however, is an exception, coming to us more or less irregularly from the north early in September and remaining until April or May.

Color.—Gray above and white below is the prevailing type of coloration in this family; a color-

scheme which, while it apparently does not bring them into harmony with their surroundings, conforms with Thayer's law for the coloration of animals, that is, darker above than below.

External Structure.—Chickadees and Nuthatches are so different in structure that some authors place them in separate families, though they are not so treated in the 'Check-List' of the American Ornithologists' Union. The Chickadees have a short, stout bill, the nostrils being covered by bristly tufts as in the Crows and Jays; indeed, as many systematists have remarked, there are no structural characters other than size to distinguish the Chickadees from the Jays. The tail is rather long and rounded, the outer primary being short, and the plumage loose and fluffy.

The Nuthatches agree with the Chickadees in having the outer primary short, but differ from them in having a short, square tail, long, slender bill, and much longer toes and toe-nails.

Appearance and Habits.—The climbing habit of Nuthatches is their distinguishing characteristic in life, and their elongated toes and toe-nails are doubtless of assistance to them in this connection, though the tail apparently here plays no part beyond being short enough not to interfere with their movements in either direction. The bill is used as a pick, but its length apparently renders it more serviceable in reaching into cracks and crevices.

With the Chickadees the stout bill is employed in excavating a nesting-hole and in hammering food held by the strong feet.

Song.—Though possessing a variety of notes, neither Chickadees nor Nuthatches can be considered songsters. The former, however, utter whistled calls which are often possessed of much sweetness.

The Migration of Warblers

Few subjects are of more interest to field students of birds than the migration of the host of Warblers which pass northward in the spring and southward in the fall. Coming from their far winter homes when the weather is comparatively settled, there is a certain regularity in their movements which makes a study of them unusually valuable. For both these reasons BIRD-LORE proposes to devote much attention during the coming year to the times of arrival and departure of Warblers in eastern North America, and in this undertaking it asks the coöperation of all its readers who have notes on the migration of Warblers. The notes should give (1) the place of observation; (2) the observer's name; (3) name of the species, followed by the data called for in the Biologic Survey Migration Schedules, that is, (4) when was it first seen? and about how many were seen? (5) when did it become common? (6) when was it last seen? (7) is it common or rare? If you cannot reply to all these questions answer those you can and send your notes to the editor of BIRD-LORE any time during the next two months.

The Young Observers' Contest

The prize for the best essay on the birds of June and July goes to Master Stewart Mackie Emery, of Morristown, N. J.

In preparing their essays on the birds of August and September, in competition for the prize offered in August BIRD-LORE, we ask young observers to remember that those contributions showing the greatest amount of original observation will stand the best chance of winning the award. What we desire is not general information on the bird-life of August and September, but we want to know what *you* have seen in the woods, fields or marshes during these two months. These essays should be sent in during the first half of October.

We now offer a fifth prize of a book or books to the value of two dollars to the young observer of fourteen years or under who sends us the best seven- or eight-hundred word article on the birds of October and November.



What Bird is This?

Field Description.—Length 5.75 inches. Upper parts streaked with black, brownish gray and grayish brown a grayish line over the eye, under parts white streaked with black, a buff band across the breast and on the flanks.

NOTE.—Each number of BIRD-LORE will contain a photograph, from specimens in the American Museum of Natural History, of some comparatively little-known bird, or bird in obscure plumage, the name of which will be withheld until the succeeding number of the magazine, it being believed that this method of arousing the student's curiosity will result in impressing the bird's characters on his mind far more strongly than if its name were given with the picture.

The species figured in August is the female Indigo Bunting, which in worn, breeding plumage shows almost no trace of blue and is then easily confused with certain Sparrows.

Notes from Field and Study

A Catbird's Musical Ability

A Catbird who chose our back yard as his home during the past summer has interested me on several occasions by his attempts at imitation.

One noon, as I came in at the back door, I heard a Canary singing, and wondered whose song it could be that I could hear so plainly. I came into the house, but curiosity got the better of me and I had to go back to investigate. There was my Canary, perched on a lawn-seat, dressed in dark drab instead of yellow, singing as a three-months-old Canary would sing. There were no rough notes in his song, such as are usually heard when the Catbird tries to imitate; but he stopped short of the full melody and left me with that aggravating feeling one has when the final measure of any musical composition is left off on account of an interruption.

Another day, I heard what started to be my Rose-breasted Grosbeak's familiar sentences, and I opened my eyes to see him. Just then that squawk, so familiar to those who are acquainted with the Catbird, came out in the middle of his imitation, and I said, "No, you don't fool me. The Grosbeak never puts in any such discords. His notes are all harmonious and pure tone. You will have to do better than that." He finished just as the Grosbeak does, and that one rough squawk was all there was to tell me it was not the Grosbeak.

Memorial Day, a hand-organ came along. That was his chance. The hand-organ was putting in its best efforts on some rattle-te-bang music, which was too much for the poor Catbird; he must try anyway—do it or die. So he struck in. A few of the notes he got right, but more of them he did not, for in his haste to keep up to the time he put in almost anything to fill up the measures. He had this to comfort him anyway,—he did not let that tormenting hand-organ come out ahead. His

time was as good as the organ's,—accent, evenness of beat, rests and all. I have not seen much of him for several weeks now, but presume he has been attending the music festival which has been in progress.
—EMILY B. PELLET, *Worcester, Mass.*

The Warbling Vireo a Nest Singer

The account of the singing of a Warbling Vireo from its nest, in the September-October, 1901, BIRD-LORE, almost exactly describes a similar experience of my own last summer, which surprised me greatly, it seemed so unusual. It would be interesting to know whether these two incidents are exceptions, or whether they merely show the habit of the species.

It was at New Russia, Essex county, New York. The nest was in a maple tree, bordering the road in front of the house. After sitting had begun it was noticed (on June 1) that at intervals the singing of the Warbling Vireo was stationary for some minutes near the nest. The nest was watched more closely, and soon one of my class discovered that one of the birds sang while brooding, and the other did not. By advancing with caution we could stand directly beneath the nest and see the little bill open to pour forth the song. The music was not so continuous while the singer was thus under inspection, for he had to stop often to cock his head and turn his bright eye inquiringly down upon the listener below. But when undistracted by a sight of his audience he repeated the strain with almost perfect regularity *once in five seconds!* Once, when he was timed, this was kept up for five minutes. This period was about the usual length of his sitting, and then his mate entered the tree with little scolding notes, a small form dashed through the air to a distant row of trees, leaving a trail of song behind, and silence fell in the maple tree.

It was natural to conclude that the singer

was the male and the silent sitter the female, which was doubtless the case. —MARY MANN MILLER.

Nesting Habits of the Chalmey Swift

Although having often read of the Chimney Swift nesting in hollow trees, and the usual place being in unused chimneys, nothing has ever come to my notice, in literature, stating that they nest in other places.

In this locality, more nests are built inside buildings than there are inside chimneys. The nests are usually glued to the gable end of the building—sometimes barns, sometimes old uninhabited houses are chosen—and one nest, the past summer, was built in a blacksmith shop within fifteen feet of the forge. A number of years ago a pair nested in the upper part of a house in which a family lived, and near to a bed in which children slept every night. In this case the birds entered through a broken window.

On only two occasions has the writer observed the Swifts collecting their nest material. They chose the dead twigs from the tops of trees, on one occasion a white maple, another time from a hemlock. As the birds flew slowly along, they would seize a twig in their bill and were generally successful in breaking it away. When the twig was not broken off, the bird would fly but a short distance and return and try another.

Sometimes the egg-laying begins before the nest is completed. The eggs are laid usually in the morning, one being laid each day until the set is completed, the number being five.

When the last egg is laid incubation begins, twenty-two days being required before the young are hatched.

Should the first set of eggs be taken, and the birds not frightened, they will again have eggs, in the same nest, in two weeks' time.

Whether both birds incubate I do not know, as the sexes are so nearly alike in plumage.

About three weeks are required for the

young to get a sufficient growth of wing-feathers to be able to fly. During this time they are fed by both birds, at any time, day or night.

A chimney would appear to be a very safe place for a pair of birds to raise a brood to be free from enemies. Yet there is one enemy they are unable to cope with—that is rain. A heavy rain, when the young are about half grown, loosens the glued sticks from the sooty chimney, and young and nest fall to the bottom of the shaft, where the young soon perish of hunger, as the old birds do not seem to feed them after the fall.

In such cases the young are often taken by the people of the house, placed in a small basket or box, lowered a short distance into the chimney from the top, where they are fed and cared for as if nothing had happened.—W. H. MOORE, *Scotch Lake, N. B.*

Destruction of Birds by Lightning

In connection with Dr. Morton's account of the destruction of birds by a hail-storm, at Minneapolis, in August, 1901, published in this issue of BIRD-LORE, the following report from the 'N. Y. Sun' of the effect on Sparrows of a severe storm which occurred in New York city on the evening of July 28, is of interest: "More than a thousand Sparrows were killed by the storm at the corner of Hudson and Third streets, Hoboken. Two large shade trees in front of the Beachwood apartment house were struck by lightning shortly after the storm began, and a moment afterward the lawn in front of the house was a carpet of feathers. Most of the birds were killed outright, but there were several hundred that began to hop about their dead mates and chirp."

Cats and Bells.

A correspondent recommends the placing of bells on cats to prevent them from catching birds, and states that the plan has been tried with success.

Book News and Reviews

TWO VANISHING GAME BIRDS: THE WOODCOCK AND THE WOOD DUCK. By A. K. FISHER, Ornithologist Biological Survey. Year-Book U. S. Dept. of Agriculture, 1901, pp. 447-456.

Dr. Fisher's experience as a sportsman, combined with his wide knowledge as an ornithologist, permits him to speak with unusual authoritativeness on the question of game protection. This paper, therefore, as might be expected, is one of the most practical, convincing contributions to the subject which has come to our attention. Sentiment is an admirable thing in itself, but a weak weapon when turned toward those who observe the game laws simply because they might be subjected to penalty for breaking them; and the strength of Dr. Fisher's argument lies in the hard, sound undeniable *facts* on which it is based. He shows the rapid decrease of Woodcock and Wood Duck, and then proves, and proves conclusively, that if these birds are not given better and more uniform protection than they now receive they will become practically exterminated.—F. M. C.

CHECK-LIST OF CALIFORNIA BIRDS. By JOSEPH GRINNELL. Pacific Coast Avifauna No. 3. Cooper Ornithological Club, Santa Clara, Calif. 8vo. 98 pages, 2 maps.

An annotated list of California birds has long been one of the wants of working ornithologists which the author of the list under consideration is well qualified to fill. He enumerates 491 species and subspecies as duly entitled to recognition as California birds, and under each one gives, as synonyms, the names which have also been applied to it as a California bird, and its "status" or manner of occurrence. Maps, based on climatic conditions, outline the "life zones" and "faunal areas" adopted by the author, and greatly assist the reader in understanding that portion of the work which relates to distribution.

While we should be grateful to Mr.

Grinnell for the preparation of a paper which will undoubtedly be useful, we believe its value would have been increased by the inclusion of the dates of occurrence of the rarer species, with references to the publication in which their capture was recorded. Again, with no desire to be overcritical, we cannot but feel that the interests of ornithology in California—the 'Check-List,' we understand is intended chiefly for younger students—would have better served had the author accepted the verdict of the A. O. U. Committee by omitting numbers of races which the committee has rejected. Mr. Grinnell is, of course, entitled to his opinion in regard to the desirability of recognizing these forms, but it is unfortunate that the "younger students" of California's birds should be called upon to learn, even by name, birds which have been declared by those perhaps better qualified to judge than Mr. Grinnell, not worth the naming.

In any event, there is no excuse for giving these rejected forms the apparent endorsement of the A. O. U. by placing before their names, without other comment than an unexplained "part," the A. O. U. Check-List number.—F. M. C.

MORE TALES OF THE BIRDS. By W. WARDE FOWLER. Illustrated by FRANCES L. FULLER. The Macmillan Co. 1902. 12mo. 232 pages, 8 plates.

We have no American writer on birds with whom Mr. Fowler can be compared; his methods differ from those of our popular authors, and make his 'tales' a singular combination of fact and fancy which it would be hazardous for a less skilful writer to attempt to duplicate. His birds talk, but they are a true ornithologist's bird for all that, and each story emphasizes the close relation which should and does exist between birds and man, and is admirably adapted to awaken genuine sympathy with bird life.—F. M. C.

THE BIRD CALENDAR. BY CLARENCE MOORES WEED. Rand, McNally & Co. 32mo. 80 pages.

The purpose for which this booklet and similar ones for trees and flowers is intended, is best explained in their author's preface: "The use of these books will give a connection between school work and outdoor observations of the pupil that is very advantageous. They will dignify the nature-study work, and will develop the power of seeing things accurately"—remarks which we heartily endorse. J. M. C.

The Ornithological Magazines

THE OSPREY.—The April number of 'The Osprey' opens with a most interesting and instructive article on the 'Feeding Habits of the Coot and other Water-Fowl,' by B. W. Evermann. The observations were made at Lake Maxinkuckee, Indiana, upon twenty-seven species of birds, but, as the title of the paper indicates, the Coot received the greatest amount of attention. Professor Evermann found that this bird, which is usually despised by sportsmen, is an expert diver, and as an article of food is superior to most Ducks. Early in the season the Coots fed largely on the winter buds of the wild celery, but after these became scarce and hard to procure, other aquatic plants were eaten. In securing this food it was often necessary for them to go to a depth of over twenty feet, and to remain under water for at least a quarter of a minute. The paper on the vernacular names of the birds of the Marianne, or Ladrone Islands, by W. E. Safford, is continued from the March issue and contains notes on thirty-five species of birds, together with an alphabet of the Chamorro language. The May and June numbers contain several noteworthy papers. In the 'Winter Water-fowl of the Des Moines Rapids,' E. S. Currier treats of the various species that inhabited the open holes during the winter, and especially of the Golden-eye, or Whistler, which was the commonest Duck.

B. J. Bretherton makes some pertinent remarks on the 'Destruction of Birds by

Lighthouses,' and gives interesting details showing how vast numbers of migrating birds are killed. 'The Works of John Cassin,' by Doctor Gill; 'Recent Views of the Sable or Ipswich Sparrow,' by W. E. Saunders; 'The Mississippi Kite,' by A. F. Ganier; 'Northern Parula Warbler,' by J. M. Swain; and 'The Porto Rican Pewee,' by B. S. Bowditch, are all of interest and are well worthy of careful reading. The three supplements, containing 'A General History of Birds' by Doctor Gill, cover twenty pages. The great delay in the appearance of 'The Osprey' is partly due to the serious illness of the esteemed editor, Doctor Gill. We are glad to allay anxiety, however, by assuring his friends that he has so far recovered his health as to be able to enjoy literary work once again.—A. K. F.

WILSON BULLETIN.—Number 39 of 'The Wilson Bulletin' has appeared since our last review, and contains 'Winter Bird Studies in Lorain County, Ohio,' by Lynds Jones; 'A Preliminary List of the Birds of Yakima County, Washington,' by W. L. Dawson; 'Incubation Period of the Mocking Bird,' by J. W. Daniel, Jr., and the recording of the European Widgeon as a new bird for Ohio by Lynds Jones. Professor Jones has devoted a great deal of time and energy during the past six years in making a study of the winter birds of Lorain county as complete as possible. He found it impracticable to work over this whole area, so chose as an alternative five routes that would bring him in contact with the most diversified country. As a reward for this labor sixty-five winter residents were observed, of which fifty were of more or less regular occurrence. A map showing the routes along which observations were made accompanies this interesting paper. Local bird lists from the northwest are especially desirable; consequently the paper by W. L. Dawson on 'The Birds of Yakima County, Washington,' is most timely. The author wishes it to be understood that this list of one hundred and twenty-three species, which is necessarily incomplete on account of the extent of territory, is merely a working basis for future

investigation. A Yellow-throated Vireo, which had wandered hundreds of miles out of its normal range, is recorded 'as narrowly scrutinized in a quaking ash grove, May 12, 1895.' Although Franklin's Grouse undoubtedly occurs on Mt. Adams and about Cowlitz Pass, the remarks under this caption evidently refer to the Sooty or 'Blue Grouse' and not to the Fool Hen, which is a typical boreal species dwelling among firs and spruces, and not in the lower mountain ranges of the Upper Sonoran and Transition Zones.—A. K. F.

THE CONDOR.—The July-August number of 'The Condor' contains several interesting articles on the nesting habits of western birds, among which may be mentioned Bowles' 'Notes on the Black-throated Gray Warbler,' Gilman's 'Nesting of the Little Flammulated Screech Owl on San Geronio Mountain' in southern California, and Bailey's 'Nesting of the Ruby-crowned Kinglet' near Kenai, Alaska. The Kinglet's nest was found in a dense spruce about thirty feet from the ground, and is described as pyriform in shape, with the small end down, beautifully made of moss, fur, and silky, fibrous substances compactly woven together. On June 6 it contained eleven eggs slightly advanced in incubation. Two sets of eggs of Clarke's Nutcracker are recorded by Johnson from Box Elder Mountain, Utah, one with five eggs collected on April 8, when the snow was five feet deep under the tree, and the other taken on April 17.

Under the title 'Notes on the Verdin,' Gilman calls attention to the winter nests of *Auriparus flaviceps*, constructed for roosting purposes, which are built by both sexes and differ somewhat from the breeding nests. An interesting account of two Yellow-billed Magpies raised in captivity is given by Noack, showing that the California bird has remarkable vocal powers and considerable ability to articulate. These characteristics would seem to render it more attractive as a pet than the European Magpie, which is often imported as a cage bird. The Southern White-headed Woodpecker (*Xenopicus gravirostris*) is sep-

arated from typical *X. albolarvatus*, by Grinnell, on characters which are "slight, and apparently exist only in dimensions, chiefly of the bill." In spite of the fact that "individual variation brings an overlapping of characters" and that "geographical continuity of ranges possibly exists," the new form is given the rank of a full species!—T. S. P.

Book News

HOUGHTON, MIFFLIN & Co., announce for early publication a 'Hand-book of the Birds of the Western United States,' by Florence Merriam Bailey. The book will be fully illustrated by Louis Agassiz Fuertes, and will, it is needless to say, satisfactorily supply the long-existing demand for a work devoted to western birds.

WE are informed that the results of Dr. R. M. Strong's long-continued studies on the colors of feathers will be published by the Museum of Comparative Zoölogy during the autumn.

THE Southern Pacific Railroad Company has published, in attractive form, Mr. H. P. Attwater's admirable address to Texas farmers, on 'Birds in their Relation to Agriculture.' Copies of this pamphlet can doubtless be obtained from Mr. Attwater at Houston, Texas.

NOT only the personal friends of Mr. Otto Widmann, but readers of his characteristic and delightful sketches of bird life, will learn with extreme regret of his loss, by fire, of field notes covering a period of thirty years' observation.

CIRCULAR No. 38 of the Biological Survey of the United States Department of Agriculture, calls the attention of sportsmen, dealers in game, and transportation companies to the laws relative to the shipment of game, insectivorous birds and birds killed for millinery purposes.

From the same source a chart is issued giving a synopsis of the game laws of the United States, and also, as Farmers' Bulletin No. 160, a summary of the provisions of the game laws for 1902.

Bird-Lore

A Bi-monthly Magazine

Devoted to the Study and Protection of Birds

OFFICIAL ORGAN OF THE AUDUBON SOCIETIES

Edited by FRANK M. CHAPMAN

Published by THE MACMILLAN COMPANY

Vol. IV Published October 1, 1902 No. 5

SUBSCRIPTION RATES

Price in the United States, Canada, and Mexico twenty cents a number, one dollar a year, postage paid.

Subscriptions may be sent to the Publishers, at Harrisburg, Pennsylvania, or 66 Fifth avenue, New York City.

Price in all countries in the International Postal Union, twenty-five cents a number, one dollar and a quarter a year, postage paid. Foreign agents, MACMILLAN AND COMPANY, LTD., London.

COPYRIGHTED, 1902, BY FRANK M. CHAPMAN

Bird-Lore's Motto:

A Bird in the Bush is Worth Two in the Hand

A Question of Identity

We are frequently in receipt of reports of the occurrence of rare birds or of birds far beyond the boundaries of their normal range, which, while sent in perfectly good faith, are obviously based on faulty observation, though it is difficult, in fact sometimes impossible, to convince the observer of his error in identification. When such observations are not published no especial harm results from them beyond increasing the student's liability to err again, but when they are recorded in print they become part of the literature of ornithology and cannot be ignored, even by those who feel assured of their incorrectness.

So the question arises, What constitutes justifiable grounds for publicly recording the occurrence of an exceedingly rare species or of a species beyond the limits of its own country? The professional ornithologist replies, "the capture of a specimen;" but to this violent method of identifying, the opera-glass student objects, and, sentiment aside, we think rightly. It is undeniably exciting to secure a specimen of a rare species, or to add a species to the known fauna of one's state; but we believe that the science of ornithology would have been more benefitted

by the life of most of these "rare" birds than in their death. What, for instance, might now be the range of the Mockingbird if practically every bird and nest of this species found by collectors north of its usual range had not been taken? Again, how often the gun has robbed us of most interesting and important facts in the life history of that ornithological mystery, Brewster's Warbler!

But, in refusing to use the gun, must the opera-glass student be denied the privilege of having his observations accepted without question? It depends upon many and varied circumstances. In the first place, gun or no gun, we must take into consideration the mental attitude of the enthusiastic bird student afield. It is in the highest degree receptive; he is on the lookout for rare birds, and both eye and ear are ready and willing to interpret favorably any sight or sound not clearly seen or heard. We know an experienced collector of birds who was exceedingly desirous of securing a specimen of a Nonpareil, a bird he had never seen in nature. When, therefore, he first reached the range of this beautiful and strikingly colored bird he was constantly alert to detect it; and it was not long before he saw a bright, full-plumaged male perched in plain view on the topmost twig of a low bush. It was in easy range; he fired, the bird fell, he rushed in and picked up a—Yellow-rumped Warbler!

Another collector we know of identified with certainty a Blue Grosbeak some two or three hundred miles north of its usual range, but the report of his gun, singularly enough, transformed it into a male Cowbird! Still another excitedly chased a Dickcissel from field to field, and when it at length fell a victim to his aim he found he had been pursuing a male English Sparrow!

So we might enumerate dozens of cases illustrating our liability to err in making field identifications, and the extreme care needed to name accurately in nature birds which we have never seen alive. Consequently, we should number among the requirements of field identification the following: (1) Experience in naming

birds in nature, and familiarity, at least, with the local fauna. (2) A good field- or opera-glass. (3) Opportunity to observe the bird closely and repeatedly with the light at one's back. (4) A detailed description of the plumage, appearance, actions and notes (if any) of the bird, written while it is under observation. (5) Examination of a specimen of the supposed species to confirm one's identification. Even with these conditions fulfilled, our belief in the correctness of an observer's identification would depend upon the possibility of the occurrence of the species said to have been seen. For example, the presence of an *individual* bird at a given locality, either as an escape or stray, is always possible, provided the bird has sufficient power of flight to enable it to make long journeys, or could endure caged life. But when we receive news of the observation, in large numbers and frequently, of some species which has never been seen within two or three thousand miles of the place whence our correspondent reports it, we feel assured that an error has been made in identification.

After all, the discovery of one new fact in the life history of the most common species is of greater importance than the capture, with gun or glass, of a bird which, like thousands of birds before it, has lost its way and wandered to parts uninhabited by its species.

A Debt of Bird Students

No science in this country has been more benefitted by organization than that of ornithology, through the formation, in 1883, of the American Ornithologists' Union. Wholly apart from the Union's work in inaugurating systematic observations on the migration of birds, in supporting a journal of ornithology, and in establishing and maintaining a committee on bird protection which for the past eighteen years has been actively engaged in the work of bird preservation, the Union brought order out of chaos in formulating a code of nomenclature for zoölogists and in publishing an authoritative 'Check-List' of North American birds,

wherein, as a result of the labors of the Union's Committee on Classification and Nomenclature, the views of various ornithologists were harmonized and for the first time in many years we had one standard system of nomenclature and classification. Nor did the labors of this committee end with the publication of the 'Check-List,' annual meetings now being held to pass upon the systematic work of the preceding year, so far as it affects American birds, so that the layman is kept thoroughly abreast of the times by a committee of experts, in whose judgment he may have complete confidence.

Amateur ornithologists in America are, therefore, far more deeply indebted to the good offices of the Union than they realize, and they should acknowledge the assistance which, directly or indirectly, they have received from it by showing sufficient interest in the welfare of the Union to lend it their personal support. Every student of birds in America should be a member of the American Ornithologists' Union, and there are probably none who are not eligible as candidates for election to its recently formed class of Associates, which is composed wholly of amateurs. The annual dues are three dollars, in return for which the member receives a copy of the Union's official magazine, 'The Auk,' a quarterly, each volume of which contains about 400 pages, and, what is even more important, he has the satisfaction of knowing that he is identified with an organization of kindred spirits, to which is largely due the present widespread interest in bird-study in this country.

The Union meets annually, and the Congress for the present year will be held in the United States National Museum, at Washington, D. C., November 18-20. We hope all the readers of BIRD-LORE who can attend this twentieth Congress of the Union will do so, but, in any event, whether or not it is possible for them to be present, we trust they will not fail to apply for Associate Membership in the Union to its treasurer, William Dutcher, at 525 Manhattan avenue, New York city.

The Audubon Societies

*"You cannot with a scalpel find the poet's soul,
Nor yet the wild bird's song."*

Edited by MRS. MABEL OSGOOD WRIGHT (President of the Audubon Society of the State of Connecticut), Fairfield, Conn., to whom all communications relating to the work of the Audubon and other Bird Protective Societies should be addressed. Reports, etc., designed for this department should be sent at least one month prior to the date of publication.

DIRECTORY OF STATE AUDUBON SOCIETIES

With names and addresses of their Secretaries

Maine	A. H. NORTON, Westbrook.
New Hampshire.....	MRS. F. W. BATCHELDER, Manchester.
Vermont	MRS. FLETCHER K. BARROWS, Brattleboro.
Massachusetts.....	MISS HARRIET E. RICHARDS, care Boston Society of Natural History, Boston.
Rhode Island	MISS HARRIET C. RICHARDS, 48 Lloyd ave., Providence.
Connecticut	MRS. WILLIAM BROWN GLOVER, Fairfield.
New York.....	MISS EMMA H. LOCKWOOD, 243 West Seventy-fifth street, New York City.
New Jersey.....	MISS JULIA SCRIBNER, 510 E. Front street, Plainfield, N. J.
Pennsylvania.....	MRS. EDWARD ROBINS, 114 South Twenty-first street, Philadelphia.
Delaware.....	MRS. WM. S. HILLES, Delamore Place, Wilmington.
Maryland.....	MISS ANNE WESTON WHITNEY, 715 St. Paul street, Baltimore.
District of Columbia	MRS. JOHN DEWHURST PATTEN, 2212 R street, Washington.
Virginia	MRS. FREDERICK E. TOWN, Glencarlyn.
North Carolina.....	T. GILBERT PEARSON, Greensboro.
South Carolina.....	MISS S. A. SMYTH, Legare street, Charleston.
Florida.....	MRS. I. VANDERPOOL, Maitland.
Missouri.....	AUGUST REESE, 2516 North Fourteenth street, St. Louis.
Ohio.....	MRS. D. Z. MCCLELLAND, 5265 Eastern ave., Cincinnati.
Indiana.....	W. W. WOOLEN, Indianapolis.
Illinois.....	MISS MARY DRUMMOND, 208 West street, Wheaton.
Iowa.....	MRS. L. E. FELT, Keokuk.
Wisconsin.....	MRS. RUBEN G. THWAITS, 260 Langdon street, Madison.
Minnesota.....	MISS SARAH L. PUTNAM, 125 Inglehart street, St. Paul.
Wyoming.....	MRS. N. R. DAVIS, Cheyenne.
Kentucky.....	INGRAM CROCKETT, Henderson.
Tennessee.....	MRS. C. C. CONNER, Ripley.
California.....	MRS. GEORGE S. GAY, Redlands.

Back to First Principles

The first tenet of the Audubon movement was the suppression of the use of bird plumage for millinery purposes. "So long as women wear any but Ostrich feathers on their hats, so long will birds be killed to supply them"—ranged the protest in turn from every society that joined the ranks. After we had preached and talked this for several years, some of us began to feel that an impression had been made once and for all, and that it was no longer necessary to dwell so forcibly upon this phase of the work; people were getting bored, and we heard on all sides that the really nice people were at least giving up the wearing of egrets and the plumage of our native birds. We therefore flattered ourselves that what

the 'really nice' elect to do, must sooner or later be followed by *hoi polloi*, and turned our attention to the educational side of bird protection, i. e., teaching the masses to identify birds, to know their habits and economic value, and so, logically, come to desire of their own volition to give birds the complete protection that is the end and aim of our work.

Not to bore people and to render the pledge suitable for the sterner sex, we said less and less about birds on bonnets and appealed more to the love of outdoor life to gain our ends.

As a direct result, laws have been passed in many states curbing and stopping the traffic in native birds and, carried by the Abbot Thayer fund, the cry of "Save the Gulls and Terns" has echoed along the en-

tire Atlantic coast. But the masses have been only stirred, as a ripple passing over the surface of the great deep; and the millinery trade journals of midsummer herald another period of feather-wearing that promises to equal in quantity anything we have seen. We cannot blame the dealers so long as they keep within the letter of the law; we cannot blame them for desiring to have the laws framed to suit their purposes. It is the demand alone that we must blame, and it is this demand that can only be subdued by international coöperation, as well as by organized home effort. Nothing can present the present status more graphically than some clippings from these same trade journals, for the more we see how we are regarded by the opposition the more we shall realize its force.

The following advertisement, unique in its way, taken from one of these journals, appears in conspicuous type ornamented by cuts of birds and fishes:

Factory, Lindenhurst, L. I.

MAX HERMAN & CO.

Beg to offer to the Trade a complete line of novelties imported and of our own make.

The prospects for the coming season are apparently for a general line, such as Fancy Feathers, Wings, Pompons, Palms, Paradise, Aigrettes, Ostrich Plumes, Autumn Flowers, and last, but not least, BIRDS.

To our kind and feeling friends who are prejudiced against the wearing of birds, besides such as are protected by law, we respectfully offer a fine selection of FISH of different breeds, which are the latest Parisian creation.

It is really difficult to tell whether this offer to supply *fish* to decorate the hats of the sensitive is a tribute to their feelings or subtle satire; and we greatly wonder if the fish are real stuffed fish or hollow mockeries of gauze.

These from the midsummer number of 'The Millinery Trade Review':

HANDLING LARGE LOTS

"There can be no gainsaying the fact that fancy feather effects are to take an extraordinary part in the coming season's millinery, and, judging from the great number of cases received and shipped by William Köne-mann, his American representatives are getting a full share of business. They carry a large stock of birds' breasts, wings, quills and novelty effects, which are added to by each incoming steamer. From this assortment excellent selections can be made by millinery jobbers, not only now, but all through the season. 'Tis a good house to make a friend of."

PLUMAGE OF THE FEATHERY KINGDOM

"That high-class novelties in birds, bird plumage and fancy feather effects, consisting principally of breasts, wings, quills, aigrettes, paradise and pompons, are to be prominent feature in the season millinery, goes without the saying. The edict of fashion has gone forth, and Paris will revel in bird plumage as soon as the season opens, with increasing demand as the season advances.

"L. Henry & Co., while importing large quantities of this class of merchandise, have a domestic plant that is productive of more than ordinary results in creating designs that meet with marked favor with millinery buyers. Their sample-room is now filled with all the plumage of the feather tribe that is at all likely to be sought for, and it is an exhibition that will be appreciated by the general millinery public. Their pattern hats will be placed on exhibition, together with their more recent shipments from Paris of novelties in fancy effects, commencing Monday, July 7."

The following, from the same journal, is interesting in that the matter is logically handled and the lines we italicize regarding the use of bird pests for decorative purposes is full of import. If we could be sure that the use of the English Sparrow and English Starling, who has come to stay,—and we fear will prove a greater nuisance than the former bird,—for millinery purposes would not cause the innocent species of Sparrows to suffer through mistaken identity, the trade might easily supply the "long-felt want" of small birds:

BIRDS AND BIRD PLUMAGE IN MILLINERY

"The Illinois Audubon Society has issued a circular letter, which it has forwarded to the millinery trade of Chicago, wholesale

and retail, warning it against the buying and selling of birds for millinery purposes. The circular has been widely copied by the press of the country, and no doubt will have some influence upon the timid ones of the trade. The circular reads:

"GENTLEMEN: The Illinois Audubon Society for the protection of birds desire to call your attention to the following extract from the Illinois Game Law, which has been in force in this state since April, 1899:

"SECTION 3. Any person who shall within the state kill or catch or have in his or her possession, living or dead, any wild bird, other than a game bird, English Sparrow, Crow, Crow Blackbird, or Chicken Hawk, or who shall purchase, offer or expose for sale any such wild bird after it has been killed or caught, shall, for each offense, be subject to a fine of five dollars for each bird killed or caught or had in possession, living or dead, or imprisonment for ten days, or both, at the discretion of the court.

"Public sentiment, as evidenced by the action of both state and national governments, no longer warrants the use of wild birds for millinery purposes, many states besides Illinois no longer permitting their sale. Birds are an absolute necessity to man as consumers of insects and weed seeds, and as scavengers along their shores.

"The Illinois Audubon Society urges you to comply with the law of the state, because it hopes that you will place yourself on the side of those who protect birds rather than of those who destroy them, and also failure to comply with the law must lay those who violate it open to prosecution.

"In purchasing your fall stock, we hope most earnestly that you will take these facts into consideration."

"The above circular applies to the wild birds of the state or those of any other state, sold within the state of Illinois. The law was ostensibly passed to protect game birds, and to prevent the killing of game birds out of season. Various amendments make the law apply to any wild bird, whether it be water fowl, song bird or insectivorous bird. The members of the Millinery Merchants' Protective Association are in accord with the law as it reads, and will not handle North American birds or foreign birds of the same species, but the association claims that no state can legislate for the protection of birds of foreign countries not of the same species as the birds of America. *There are myriads of birds that are pests in other countries, which said countries are glad to be rid of, that are not under the ban, which will be imported and*

which will be passed by the custom inspectors, and on which a duty will be paid. As long as the United States Government collects the duty on such importations it will be construed as a license to sell such merchandise, and it will be sold until the courts decree otherwise.

"The press of the whole country has a mistaken idea regarding bird plumage. It assumes that everything in the shape of a feather that is used in millinery trimming is embraced in the law from which the above extract is taken, and which is similar to other state laws passed for the protection of birds and bird plumage. There are tons of feather plumage used in the manufacture of what the trade technically terms 'Fancy Feathers,' much of which is the plumage of game birds or plumage of barnyard fowl.

"Fashion has already decreed that bird plumage will obtain as an article of millinery ornamentation to a great extent this coming fall and winter; and, notwithstanding the efforts of the extremists of the Audubons to prevent its sale, much of it will be used. The Millinery Merchants' Protective Association will aid every laudable effort to prevent the killing of native song birds, but it will brook no interference with the manufacture and sale of made birds or fancy feathers made from the feathers of barnyard fowl."

Such sane and logical arguments as these show that it is not merely the ignorant and unreasonable that we have to combat.

The 'Review' is full of announcements of the coming reign of feathers, for which, I have said before, the law and the lady must join hands to shorten. But if these two continue to disagree, let us invoke the law by all means, as it is constitutionally more dependable.

The manner in which the bird protectionists are referred to in editorial squibs by these same journals is somewhat encouraging, for people seldom take the trouble to deride an object which in no wise troubles them; for example:

"No intimidation' should be the watchword of the millinery trade from land's end to land's end when it comes in contact with the extremists of the Audubon societies. It was the Chicago branch of the Audubon conclave that rejected the proposition of the trade to import no birds of the same species as the North American species, provided it, the trade, would not be interfered with in disposing of such stock that it had on hand. The independent self-righteous spirit of the

Audubon kindled a like spirit in the breasts of dealers, who have made up their minds to defy the sentimentalists. The trade at large should pay no attention to Audubon circulars or newspaper comments, but move along in the even tenor of its way, awaiting the action of the civil authorities, who alone have the right to enforce the laws of the state, and who will do it when they see a necessity for it. Sooner or later this matter will have to be taken to the courts, when it will be found that what Uncle Sam passes through the custom-house goes."

It is easy to laugh at these tirades, but we are not certain enough of having the last word to laugh—at least not now.

It behooves each state society to obtain the best possible legal advice and guidance in framing or amending its own laws at the same time that it woos every effort to educate public opinion and furnish a better viewpoint to the rising generation.

In November the delegates of these societies will meet at Washington for the Annual Audubon Convention. Let them bring reports and queries digested, pertinent and well threshed, the kernel of the wheat only, so that we may not spend the limited time in sweeping up chaff. That the convention is held in conjunction with the annual meeting of the A. O. U. should be an inspiration to the delegates, and the fact that it is really the only chance in a twelve-month for the societies to meet face to face, should be enough to make each act in all seriousness, for many will journey to the joint meeting to whom attendance at the spring meeting of the Advisory Committee will be impossible.

A good plan would be to have a question box, placed the first day of the A. O. U., to be opened during the conference and the queries answered and discussed there and then.

M. O. W.

Bird Protection Abroad

In connection with the destruction of foreign birds, the appended information, quoted from 'Science' in regard to an international law for the protection of birds, is of interest:

"The Paris correspondent of the London 'Standard' states that the Ministers of For-

eign Affairs and Agriculture, just before the summer recess, presented to the Chamber a bill approving the international convention for the protection of birds useful to agriculture. The international convention has been signed by eleven European states. Encouraged by the constantly renewed resolutions of the Councils General and the agricultural societies, which deplored the systematic destruction of certain birds useful to agriculture, the French Government, in 1892, took the initiative in the matter of inviting the European powers to send their representatives to an international commission intrusted with the task of elaborating a convention. That committee met in Paris in June, 1895. After long negotiations, the convention thus framed has now obtained the adhesion of France, Germany, Austria, Belgium, Spain, Greece, Hungary, Luxembourg, Portugal, Sweden, Switzerland, and the principality of Monaco. All the other states are empowered by the terms of the agreement to adhere, if they think fit, to this convention for the protection of birds. The various contracting governments undertake to prohibit the employment of snares, cages, nets, glue, and all other means for the capture and destruction of birds in large numbers at a time. In addition to this general measure of protection, no one is to be allowed to capture or kill, between March 1 and September 15, any of the birds useful to agriculture, of which a complete list is contained in the international agreement. This list of useful birds comprises Sparrows, Owls, common Brown Owls, Tawny Owls, Sea Eagles, Woodpeckers, Rollers, Wasp-eaters, Peewits, Martins, Fern Owls, Nightingales, Redstarts, Robin Redbreasts, White Bustards, Larks of all kinds, Wrens, Tomtits, Swallows, Flycatchers, etc."

Reports of Societies

REPORT OF THE FLORIDA AUDUBON SOCIETY

Our second annual meeting occurred in March last, and since that time there has been an increased interest in the saving of our birds. Throughout the state, and in

places far distant from headquarters (Maitland), we have been enabled to secure good local secretaries, who are now, despite the enervating influence of a southern summer, organizing bird classes and doing most commendable work. To some of these the society has furnished charts purchased from the Massachusetts Society; they prove to be very attractive to the children.

We have much to contend with in this state, settled by a hunting and sporting community who consider killing birds legitimate sport—as their forefathers did before them. The extended seacoast is the home of birds dear to the milliner, and throughout the state there are birds of bright plumage largely sought for feminine adornment. All this makes our work more necessary and more difficult. To counteract this we have circulated many pamphlets on the wearing of aigrettes; letters have been published in the leading papers calling special attention to the wearing of this plume, and warnings, setting forth the state laws, have been posted in every post office in the state. An "Appeal to Sportsmen," as requested by the National Committee, has been published and will appear from time to time during the summer in the local papers. Circular letters, setting forth our views, have been freely sent where they would do the most good. As requested by the L. A. S., our congressmen have been asked to support H. R. 11,536, and intelligent work has been done by members of our Executive Committee, who spare no efforts to further the work of our society.

Nor have the schools been forgotten. The Orange county school board officially recognizes our work, and it will be our aim this summer to induce others to follow their example. Most of the schools in the state close in March, but to those in Orange county whose terms extended to May a prize was offered for the best essay on birds as studied from charts loaned by the society. Only one school accepted, and to the Maitland school must be given much praise for the intelligent and well-written compositions that were submitted to the committee. Many excellent drawings, also, were sent in, and to Master Rae Auld we had the pleasure of

awarding a most justly earned prize. Ere the year closes we hope to add many members to our ranks, and by our united efforts accomplish much (especially in the schools) that we feel necessary for the success of our work.—MRS. I. VANDERPOOL, *Secretary*.

A New Audubon Society

Now that Florida has an Audubon Society and has passed the A. O. U. model bird-law, there is no state in the south which needs the attention of bird protectionists more than Louisiana. We learn, therefore, with more than usual pleasure that a Louisiana Audubon Society is about to be organized in New Orleans. The attempt to secure the passage of the A. O. U. law by the legislature of Louisiana at its last session proved a failure, but we are assured that this new society will succeed in so arousing public sentiment that at the next meeting of the legislature no difficulty will be experienced in securing proper legal protection for the birds of Louisiana.

Annual Conference of Audubon Societies

The annual conference of the Audubon Societies will be held in Washington, D. C., in conjunction with the annual congress of the American Ornithologists' Union, to be held November 18-20 next. The Audubon Societies will doubtless convene immediately after the adjournment of the Union, but the exact date and place of meeting can be ascertained from Mrs. John D. Patten, Secretary of the District of Columbia Society, at 2212 R street, Washington.

A meeting of the National Committee of the Audubon Societies will also occur at this time, and it is to be hoped that routine affairs may be left to this committee, in order that the conference may be devoted to a discussion of matters of general interest in which not only delegates, but all members of Audubon Societies should be urged to participate.

The consideration of such subjects as traveling lectures and libraries, of bird classes, circulars, appeals through the press, and other means of bringing the various phases of Audubon work to the attention of the public can not fail to be attended with good results.



Ernest Thompson Seton



Shovel Lake. Mass.
1901

Bird = Lore

A BI-MONTHLY MAGAZINE
DEVOTED TO THE STUDY AND PROTECTION OF BIRDS

OFFICIAL ORGAN OF THE AUDUBON SOCIETIES

Vol. IV

NOVEMBER — DECEMBER, 1902

No. 6

On Journal Keeping

BY ERNEST THOMPSON SETON



WHEN first I went into the West, just twenty-one years ago, with the intention of using my eyes and learning all I could of nature in the wilds, a friend, an old naturalist, said to me: "Do not fail to keep a journal of everything you see and hear."

I could not see just why, but I had faith enough in his opinion to begin a journal, which I have kept ever since and hope to keep to the end. My friend did not tell me, probably did not know, what good purpose was to be served by the journal; but I think it came to me gradually as the years went by. The older I grow the more I see and realize the value of the daily note of the truth, the simple fact, bald, untooled and incomplete perhaps, but honestly given as it was found. I would have each observer in the natural history world keep a journal on the lines already sketched in BIRD-LORE, and enter therein *daily*—not from faded memory a month later—whatever facts he can observe, fully embellished with such diagrams, sketches, or photographs as will help more fully to set forth the facts. He may wonder at the time what good end it will serve, and one might answer that it is always useful to have a record of one's own doings; or yet more truly, that writing a fact makes one observe it better. But be very sure that all past experience proves it to be a good thing—how good and how valuable one may not learn for years, may never learn at all. But we do know that it is always good to follow the truth for its own sake; and there is no way that more quickly makes some returns than the Nature Journal. It always pays in the end. There never yet was a sincere, full record made of the testimony of the senses that did not in the end prove a priceless treasury of fact. 'The Journal of a Citizen of Paris,' 'Pepys' Diary,' 'Harmon's Journal,' 'Lewis & Clark's Journal,' are familiar

examples. These men wrote down the simple daily doings of the time, without intent to do anything but tell the truth and without any suspicion that they were doing a great thing. These same journals are to-day among the most treasured sources of authentic history in the world.

I have written and spoken of this before, and have had more than once to defend the keeping of journals. Several somewhat scornful critics have asked: "Are there not enough commonplace records of commonplace things, why should you set a new army of scribblers to work?"

I reply, "No man can daily write the simple truth of what he sees in nature and leave a commonplace or valueless record. It will, of course, be limited by his limitations, but every one, sooner or later, gets a chance to observe something that no one else ever did—an opportunity that happens but once in an age comes to him, and the opportunity is not lost if he has the habit of record."

How that record is to be of benefit can be illustrated thus:

There was once a vast and priceless mosaic inscription that contained the Truth, the one essential of human happiness. It was shattered to a million pieces and scattered to the corners of creation. The pieces are imperishable. Human happiness depends on the reconstruction of the inscription. Every one who finds a little fact, however small, finds a scrap of that mosaic. If he honestly brings it, just as he found it, to those in charge, he is helping by that much. If he attempts to chisel that fact to make it fit into one or two others that he may have found, he is by that much hindering the ultimate restoration of the lost inscription. When enough are brought together, no matter how ragged, they will fit each other—the right ones always fit, the wrong ones never do—and when they are put together they will surely spell TRUTH.

Now it is given to every one who uses his eyes to find some of these fragments, and the best way to preserve them untooled is in a sincere journal.

Those who made such journals and such records a hundred years ago were really providing material for Darwin and Pasteur, making them possible; and those who do it to-day are in like manner preparing material for some other prophet, whose message to mankind is sure to be yet more important. Each of these men took the accumulated fragments, put them together and restored for us a section of the great mosaic; and the latest restored part will be most important because that much nearer the whole design. No one knows or can know who the new prophet is to be, or when he is to come, any more than what will be the new restoration; but we do know that his work must be founded on the daily observation of many observers, and will be great in proportion as these are abundant and sincere, for he is only the master-builder and can do no more than his best with the material provided.

Flamingoes' Nests

BY FRANK M. CHAPMAN

With photographs from nature by the author



NOT very many years ago, so little did we know about the nesting habits of the Flamingo, it was commonly believed that the incubating bird straddled the nest when hatching, letting her legs hang down on either side! The observations of H. H. Johnston* and Abel Chapman* on the European species (*Phænicopterus antiquorum*) and of Sir Henry Blake† on the American species (*P. ruber*) proved the absurdity of this belief by showing that incubating birds folded their legs under them in the usual way, but we still know very little about the nesting habits of these birds.

Largely with the object of studying the Flamingo on its nesting grounds I went to the Bahamas in April of the present year, accompanied by Mr. Louis Agassiz Fuertes, the well-known artist. At Nassau we joined Mr. J. Lewis Bonhote, of Cambridge, England. Mr. Bonhote was formerly Governor's secretary in the Bahamas, when he acquired a knowledge of the islands which was of the greatest value to us. He had already made a reconnoissance in search of Flamingoes' nesting retreats, and, with the aid of one of the few natives who was familiar with their whereabouts, had succeeded in reaching a locality on Andros Island, at which the birds had bred the previous year.

It is not my purpose to recount here the various adventures which befel us while cruising about the Bahamas in a very comfortable 50-ton schooner, and I proceed at once to a description of our experiences with the Flamingo.

Flamingoes are late breeders. It is not improbable that the time of their nesting is dependent upon the rainy season, which, in the Bahamas, begins about the middle of May. Consequently we deferred our trip to the locality previously visited by Mr. Bonhote until the middle of May. Then we anchored our schooner at the mouth of a certain channel, and, loading our small boats with needed supplies, rowed for the better part of a day, pitching our tents toward evening on a low, slightly shelving shore with a background of dense, scrubby vegetation. Exploration of the surrounding country showed that it was regularly frequented by Flamingoes in numbers during the nesting season. Within a radius of a mile no less than eight groups of nests were discovered. They showed successive stages of decay, from the old nests, which had almost disappeared before the action of the elements, to those which were in an excellent state of preservation

*The Ibis, 1881, p. 173; 1883, p. 397.

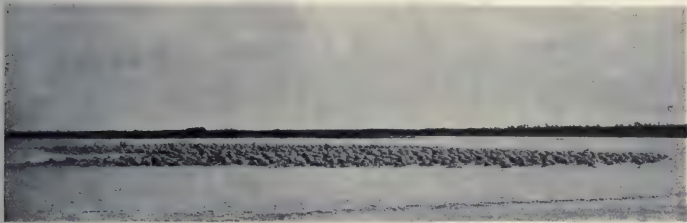
†Nineteenth Century, 1887, p. 886.



NESTS OF FLAMINGOES

and were doubtless occupied the preceding year. Some were placed among young, others among fully grown mangroves, and one colony, probably inhabited in 1900, was situated on a sand-bar two hundred yards from the nearest vegetation. All the colonies found contained at least several hundred nests, and the one on the sand-bar, by actual count of a measured section, was composed of 2,000 mud dwellings. What an amazing sight this settlement must have presented when occupied, with the stately males, as is their habit, standing on guard near their sitting mates!

Flamingoes in small flocks containing from three or four to fifty individuals were seen in the vicinity, but it remained for Mr. Bonhote's negro assistant to discover the spot which had been selected by the birds for a nesting site in 1902. Climbing a small palm, an extended view was had of the surrounding lagoons, sand-bars and bush-grown limestone; and he soon ex-



COLONY OF ABOUT TWO THOUSAND FLAMINGO NESTS

A section of this colony is shown on the facing page

claimed, "Oh, Mr. Bonhote, too much, too much Fillymingo!" Less than a mile away, indeed, was a flock estimated to contain at least 700 of these magnificent birds, which Mr. Bonhote approached so cautiously through the thick growth of mangroves, that he was fairly among them before they took wing. They had not then begun to build, but the open spaces among the mangroves were closely dotted with nests (see photograph), which apparently had been occupied the preceding year and in some of which old eggs were seen. Here, some days later, nests were found in the early stages of their construction; but, to our great regret, circumstances compelled us to leave before they were completed and we did not therefore see the birds upon them. However, we learned some things regarding the nesting habits of Flamingoes which, in view of our comparative ignorance of the ways of these birds at this season, it may be worth while recording.

In the first place, although the birds return to the same general locality year after year, they apparently use a nest only one season. This seemed proven by the nicely graduated series of groups of nests which we found, each one of which, beginning with those best preserved, seemed about a

year older than the other, and by the fact that the birds were building fresh nests near numbers of others which were seemingly as good as new.

The thousands of nests seen were built of mud, which the nests in process of construction showed was scooped up from about their base. In fact, it is difficult to conceive of a Flamingo carrying mud. In selecting a nesting site, therefore, the bird is governed by the condition of the ground, which, to be serviceable, must be soft and muddy. For this reason, as I have suggested, the time of the breeding season may be regulated by that of



FLAMINGO NESTS AMONG MANGROVES

Believed to have been occupied in 1901

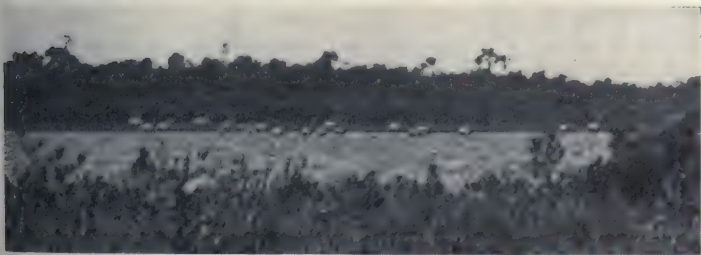
the rainy season; the heavy, tropical downpours not only moistening the earth but doubtless raising the water sufficiently, in this exceedingly low, flat country, slightly to flood large areas. While the birds, therefore, must build near, or, indeed, in the water, they guard against complete submergence of their home by building it high enough to protect the egg from possible danger. The popular conception of a Flamingo's nest makes it not more than six or eight inches in diameter at the base, whence it tapers to a truncate, hollowed top nearly two feet in height. I saw no nest, however, over twelve inches high, and most of them were not over eight inches high. The average basal diameter was about thirteen inches, that of the top about ten inches.

It is possible that the height of Flamingoes' nests, like that of the mud chimneys to the burrows of fiddler crabs, may depend upon the amount of rise and fall in the neighboring waters. This is a point to be ascertained by subsequent observation.

Flamingoes are wonderful birds. Their brilliant coloring and large size, habit of perching and flying in files, and the openness of the country which they inhabit, all combine to make a flock of Flamingoes one of the most remarkable sights in bird-life. Indeed, so far as my experience goes, it is *the* most remarkable sight in bird-life.

They are very shy and can be approached closely only when they are unaware of your presence. Attempts to use a telephoto lens in photographing birds about two hundred yards away failed because of the force of the trade-winds over the mangrove flats. Even at this distance the birds are large enough to make a strip of glowing color, in strong contrast to the blue water before, and the green mangroves behind them. This is near their danger line, and if one attempts to approach more closely without cover there is a sinuous movement along the whole line as the long, slender necks are raised and the birds regard the cause of their alarm. Soon a murmur of goose-like honkings comes to one's ear; then the birds begin, in slow and stately fashion, to move away step by step, and if their fears are not allayed the leader will soon spring into the air and, followed by other members of the flock, stretch his long neck and legs to the utmost and begin a flight which usually takes them beyond one's view. As the birds raise their wings displaying the brighter feathers below, the effect is superb beyond description, the motion showing their plumage to the best possible advantage.

It is surprising how far, under the proper light conditions, even a small flock of Flamingoes may be seen. Long after one can distinguish the individual in the waving, undulating line of birds, they show pink against the sky like a rapidly moving wisp of cloud which finally dissolves in space.



PART OF A FLOCK CONTAINING THIRTY-SEVEN FLAMINGOES

Photographed with a 14-inch lens at a distance of about 250 yards. Enlarged 4 diameters

The Weapons of Birds

BY FREDERIC A. LUCAS

Curator of Comparative Anatomy U. S. National Museum



LIKE the good little boy who figured in the story books of our grandparents, the bird in literature is always gentle and well-behaved; in real life neither the boy nor the bird are quite as peaceable as they might be. It may be treasonable to say it in the columns of BIRD-LORE, but the fact is that even the best of birds fight now and then, while some of them are well provided with weapons of offense and defense. Sad to say, Pigeons, those favorite emblems of gentleness, are among the birds that fight most systematically; for they, or at least our domesticated birds, are skilled boxers, feinting, guarding and striking most dextrously with their wings. It might perhaps be pleaded that the manners of the Pigeon have suffered from long association with man, but, unfortunately, one of the species that grew up in total and fortunate ignorance of man was provided (pity we can not say *is*) with a special weapon, a sort of natural slung-shot as it were, in the shape of a knob of bone on the wrist. The wrist of a bird, as most readers of BIRD-LORE doubtless know, comes right at the bend of the wing, and there, or thereabouts, is the place where such a weapon would be most effective. (Fig. 1.) The bird that wore this knob of bone was the flightless Solitaire, a big, overgrown, aberrant Pigeon related to the equally aberrant Dodo, though better-looking, and confined to the island of Rodriguez, where years ago the Frenchmen "caught him, and cooked him, and ate him"—quite out of existence.



FIG. 1. Part of the wing of the Solitaire

François Leguat, the historian of the Solitaire, to whom we are obliged to turn for all information concerning this bird, wrote that, "The Bone of this Wing grows greater towards the Extremity, and forms a little round mass under the Feathers as big as a musket ball. They will not suffer any other Bird of their Species to come within two hundred Yards round of the Place; But what is very singular, is, the Males will never drive away the Females, only when he perceives one he makes a noise with his Wings to call the Female, and she drives the unwelcome Stranger away, not leaving it 'till 'tis without her Bounds. The Female does the same as to the Males and he drives them away. We have observed this several Times and I affirm it to be true."

"The Combats between them on this occasion last sometimes pretty long, because the Stranger only turns about and do's not fly directly from

the Nest. However the others do not forsake it till they have quite driven it out of their Limits."

This same keep-off-my-territory trait is as strong in the common Pigeon as in his extinct relation, for if one Pigeon trespasses on the breeding box of another he will be set upon and belabored without mercy. And while no existing Pigeon has the bony knob of the Solitaire, some wild species have a rudiment of such a weapon; and if any one will part the feathers on the outer edge of a Pigeon's wing, near the bend, he, or she, will find a small bare spot and more or less trace of a little prominence covered with tough skin.



FIG. 2. Spur of the Spur-winged Plover

Most birds, indeed, are compelled to get along without any special weapon, and some, the Swans for example, are said to give very severe blows with the unaided wing; although one may reasonably question the statement that even this bird can break a man's arm with a stroke of its pinion. Nearly every one has seen the rough-and-tumble fights of those ill-bred little feathered *gamins*, the English Sparrows, and know the vigorous manner in which they hammer one another with beak and wing.

The writer does not know whether or not such well-armed birds as Gannets or Herons quarrel among themselves; but if they do so this should result in serious damage, for the beak of the Gannet is wonderfully keen-edged, while a thrust from the bill of such a bird as the Blue Heron would

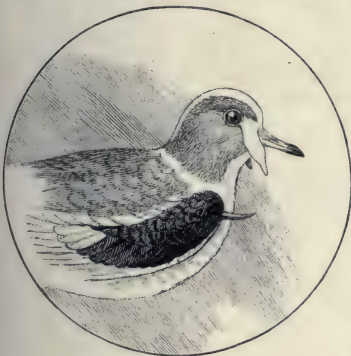


FIG. 3. The Wattled Plover

be powerful enough to kill an adversary of the same species. Such as these need no adventitious aids; neither do such hard kickers as the Ostrich and his relations, who are well able to take care of themselves. But many of the game birds, as we all know, make up for any lack of size and strength by the spurs with which their legs are provided, while still other birds wear spurs upon their wings; and it is to be noted that these are such as have weak legs or have uses for them that would render spurs upon their

legs more or less inefficient as weapons. Several species of Plovers found in South America, India and Africa, distributed among the genera *Hoplopterus*, *Belonopterus*, *Lobivanellus* and *Sarciophorus*, have these wing-spurs, and very sharp spurs they are, too, and seemingly very effective. None of these

birds are found in the United States, and most of them, as indicated above, come from southern latitudes, one of the largest and finest being the Chilean Plover (*Belonopterus chilensis*). The spur is situated just at the base of the thumb and, like the spurs on the legs of other birds, consists of a sheath of horn fitting closely over a core of bone (Fig. 2). Some of the spur-winged Plovers have fleshy wattles about the face, whence the names *Lobivanellus* (Fig. 3), lobed-plover, and *Sarciophorus*, flesh-bearer; and there is a curious relation between the size of the spur and the size of the wattle, for when one is large the other is correspondingly well developed, and when the wattle is small the spur also is small. No such relation as this exists between the spurs and wattles of domesticated fowls, but in their case selection has been artificial and not natural, so the instances are not similar.



FIG. 4. Forearm of the African Jacana

The pretty little Jacanas are among the spur-winged birds, and it is apparent from the length and slenderness of the toes that spurs upon the legs



FIG. 5. Part of the wing of the Spur-winged Goose

would be of little or no use for the birds would probably not be a success as kickers. Now there is a group of Jacanas peculiar to Africa which have no spurs on their wings, and these present a

curious modification of the radius, or outer bone of the forearm (Fig. 4), so that this may serve instead. The bone is flattened and widened until it somewhat resembles an Australian throwing-stick in miniature and projects so far beyond the edge of the wing that it makes a very effective little weapon with which to buffet an adversary about the ears. There seems to be, however, one disadvantage about this arrangement; that is, the blow ought to hurt the bird by which is delivered about as much as the one by which it is received, but if birds are like unfeathered bipeds there would be much consolation in knowing that the more one smarts the worse is the opponent punished.

The Spur-winged Goose, *Plectropterus gambensis*, shows a

variation in the making of a weapon by having the spur on one of the wrist bones instead of on the metacarpus (Fig. 5), where it is usually placed, but this only serves to show that nature is not bound to any hard and fast method of equipment.

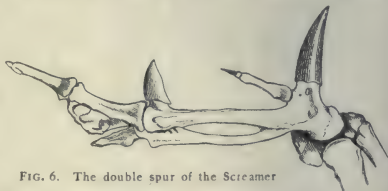


FIG. 6. The double spur of the Screamer

Last and largest of the spur-winged birds are the South American Screamers, *Chauna* and *Anhima*, and these not only have the longest, strongest and sharpest spurs of all birds, but they have a second smaller spur on the lower part of the metacarpus (Fig. 6). The large spur is slightly flattened on the side next the body as well as gently curved, forming a formidable-looking weapon about an inch and a quarter long and seemingly capable of being driven quite through a man's hand by a wing-stroke of so large a bird as the Screamer. And yet, according to Mr. Hudson, this bird is preëminently a bird of peace and dwells in peace amid large numbers of its fellows, so perhaps its arms are, as they should be, merely a warning to would-be enemies and not a menace to its friends.



WHITE-TAILED PTARMIGAN IN WINTER PLUMAGE

Photographed from nature, by E. R. Warren, Crested Butte, Colorado

Whiskey John in Colorado

BY EDWARD R. WARREN, CRESTED BUTTE, COLORADO

With photographs from nature by the author



If you ask a western man whether he is acquainted with Whiskey John or Whiskey Jack, he will most likely say, "No; never heard of him." Ask him about Camp Robbers, and he will say "Yes" if he lives in the mountains of Colorado, for the bird does not, as a rule, come much below 10,000 feet. He lives mostly in the heavy spruce timber and at once makes himself at home about your camp or cabin, as Mrs. Hardy so vividly described in *BIRD-LORE* for August, 1902.

Breeding while the snow is deep in the timber, no one ever sees their nests. Ornithologists are scarce in the mountains, and I imagine it would be quite a task to find the nest in the thickly branched trees. I have seen young just out of the nest in the middle of May, when there was still three



A CAMP PET

or four feet of snow in the timber, at an altitude of nearly 11,000 feet. They are then in the dark plumage Mrs. Hardy mentions. They are somewhat lighter in the fall, and I often think become grayer as they grow older; at least the very light-colored ones have a most venerable and patriarchal

aspect, and will steal anything in sight they can possibly pack off. One once carried away an "Out-o'-sight" mouse-trap with a dead mouse in it—I presume he ate the mouse, but he forgot to bring back the trap. Around a camp or cabin they will become so tame as to eat from one's hand, and



WHISKEY JOHN PROSPECTING

pay regular visits to mines to feed on the refuse thrown out from the boarding houses. It is amusing to watch one pick up a mouthful or two and swallow it, then take as much into its bill as it possibly can, look sidewise at you with an expression that seems to say, "What are you going to do about it?" then fly away with its load. I am sure birds must hide a great deal of what they carry away, for they soon come back for more, and it does not seem as if they could possibly eat it all.

A friend is living with his wife at a mine in the heavy timber, and the birds are quite numerous, and several are very tame. I took a number of pictures of the bird taking bread from my friend's hand; and others were taken by setting the camera on the ground, sprinkling crumbs at the desired spot and inducing the bird to come there. But do not think for a minute that, because the birds are so tame, it is easy to get good pictures of them. You see your bird in a tree, throw out a few crumbs as an inducement to him to come down; he hops onto another limb closer to you, then to the roof of the house, perhaps, then to the ground, cocks his head to one side and takes a look at you, hops about and picks up a crumb or two but is perhaps too far back for a picture; then two or three hops bring him up right close to the camera, for which he cares nothing, then off again in

some other direction, and at last gets just where you want him; you snap the shutter, and when you develop the plate find, very likely, that just as you made the exposure the bird had turned its head, though keeping the body perfectly still. I have had numbers of exposures spoiled that way. It is certainly very aggravating to develop a plate and find perfect, sharp detail on body, wings, tail and legs, and the head a shapeless blur. The birds must think their pictures are being taken for the Rogue's Gallery!

The birds have several different notes, most of them of a distinct Jay character, but beyond me to reduce to writing. My ears are not sharp enough for that. There is also one note which sounds extremely like the call of the Red-tailed Hawk. So strong is the resemblance that I often have to look to see which bird it is uttering the call. After all, I don't think we western folks have such a spite against Whiskey John as the woodsmen of Maine and Canada seem to cherish. He is a jolly, good-natured sort of fellow, and, if you don't have too many small things lying about loose, does not do very much harm.

Bird-Lore's Christmas Bird Census

THE interest aroused by BIRD-LORE'S Christmas Bird Census in 1900 and 1901, prompts us again to invite our readers to join in this modern development of the 'Side Hunt,' on December 25, 1902. Reference to the February, 1901, or 1902 numbers of BIRD-LORE will acquaint one with the nature of the report of the day's hunt which we desire; but to those to whom neither of these issues are available we may explain that such reports should be headed by a brief statement of the character of the weather, whether clear, cloudy, raining, etc., whether the ground is bare or snow-covered, the direction and force of the wind, the temperature at the time of starting, the hour of starting and of returning. Then should be given, in the order of the A. O. U. 'Check-List,' a list of the species seen, with exactly, or approximately, the number of *individuals* of each species recorded. A record should read, therefore, as follows:

Yonkers, N. Y., Time 8 A. M. to 12 M. Clear; ground bare; wind west, light; temperature 38°. Herring Gull, 75; etc. Total, — species, — individuals.—JAMES GATES.

These records will be published in the February issue of BIRD-LORE, and it is particularly requested that they be sent the editor (at Englewood, N. J.) not later than December 28.

For Teachers and Students

How to Name the Birds

STUDIES OF THE FAMILIES OF PASSERES

BY FRANK M. CHAPMAN

SEVENTH PAPER

FAMILY 17. KINGLETS AND GNATCATCHERS. FAMILY *Sylviidae*

Range.—Ornithologists differ greatly in their treatment of the three subfamilies of birds included in this family by the American Ornithologists' Union's Check-List, that is, the *Sylviinæ*, or Old World Warblers, numbering about one hundred species, only one of which reaches this country (the Willow Warbler, in western Alaska); the *Regulinæ*, or Kinglets, with seven species, three of which are American, and the *Poliophtilinæ*, or Gnatcatchers, with some fifteen species, all of which are American. Two Kinglets and one Gnatcatcher are found east of the Mississippi.

Season.—The Kinglets, representatives of an Old World family, as might be supposed, are northern, migrating southward in September and October.



KINGLETS AND GNATCATCHERS. Family *Sylviidae*. (One-third natural size)

Blue-gray Gnatcatcher

Ruby-crowned Kinglet

Golden-crowned Kinglet

The Gnatcatcher is southern, wintering from the Gulf States southward and breeding as far north as middle New Jersey.

Color.—Kinglets are olive-green or Warbler green, as it is called, above, lighter below; with a bright patch on the crown, which is wanting in the female and young Ruby-crown. Gnatcatchers are gray above, white below.

External Characters.—Kinglets and Gnatcatchers have the slender bill

of most Warblers, for which they might readily be mistaken; but their smaller size and short outer primary, which is not more than one-third as long as the longest, are distinguishing characters.

Appearance and Habits.—Like the Warblers, the Kinglets and Gnatcatchers are active inhabitants of the trees, and here again they might be compared with the former; but their smaller size, the Kinglets' trick of quickly flitting the wings, and the Gnatcatcher's long tail, which in life is very noticeable, will serve to separate them.

Song.—Both the Kinglets and Gnatcatchers are unusually good singers; indeed, in view of their small size their vocal gifts are surprising. The Gnatcatcher's voice, it is true, lacks volume, but his execution is above criticism, while the Ruby-crowned Kinglet's remarkable, rich, loud notes place him among songsters of the first rank.

FAMILY 18. THRUSHES, SOLITAIRES, STONECHATS, BLUEBIRDS, ETC. Family *Turdidæ*.

Range.—Few ornithologists agree as to what birds shall be included in the family *Turdidæ*. Its composition will doubtless always be a matter of opinion; and in cases of this kind it is of far more importance to adopt some uniform plan of treatment and stick to it, than to follow every author who thinks he has discovered the true key to the classification of the group. In other words, in the minor details of classification, the jugglings of the systematist are apt to do more harm than good. Fortunately, we have the 'Check-List' of the American Ornithologists' Union to guide us, and the *Turdidæ* as there defined numbers some 275 species, of which 125 are found in the western hemisphere, 13 in North America, and 7 east of the Mississippi.

Season.—Most Thrushes are highly migratory. The Hermit alone, of our smaller species, winters in eastern North America. The Robin and Bluebird make shorter journeys, rarely crossing our southern boundaries and wintering regularly as far north as southern New England.

Color.—The typical Thrush is brownish above, white, spotted with black below. From this pattern there is wide variation, but the young of all the species included in this family show their ancestry by being spotted in juvenal plumage.

External Structure.—In the Thrushes the tarsus is booted, or, in less technical language, the covering of the so-called 'legs' is without scales; the tail-feathers are of nearly equal length, distinguishing Thrushes from Thrashers, which have rounded tails; and the outer primary is less than one inch in length.

Song.—Thrushes are preëminent as song-birds, and with the inclusion of the Solitaires, the family might well challenge all the remaining members of the class Aves to a song contest without danger of defeat.



THRUSHES, BLUEBIRDS, ETC. Family *Turdidae*. (One-third natural size)

Gray-cheeked Thrush
Bluebird

Olive-backed Thrush
Wilson's Thrush

Hermit Thrush
Wood Thrush

The Advisory Council

ON a former occasion we have commented on the happy results which have followed BIRD-LORE's efforts to bring the isolated student in touch with an authority on the bird-life of the region in which he lived, through the formation of an Advisory Council composed of prominent ornithologists representing the United States, Canada, Mexico and the West Indies. The plan has worked admirably, and we are assured that the many of our readers who have established pleasant relations with members of the Council will be glad to know that, beginning with the present number, we propose to publish, in BIRD-LORE, the portraits of the ornithologists composing the Council. The full list of Councilors will appear in the next issue of BIRD-LORE.

Questions for Bird Students

ONE of the most effective means of acquiring information is to have one's interest in a subject aroused by a direct question concerning it. The statement of a fact may make no impression on our minds; whereas the same matter, presented interrogatively, will excite our curiosity and so prepare the way for the answer that it is more readily memorized. It is on this principle that BIRD-LORE has been publishing, during the past two years, pictures of birds without their names, and it is on this principle that it plans to present, during the coming year, questions relating to birds, bird men, and bird matters generally. One year from this month, in our issue for December, 1903, we shall have a somewhat surprising statement to make concerning these questions, and in our issue for that date we will give a list of the names of all BIRD-LORE readers who send us correct answers to them. The first lot of questions is appended.

1. When was the American Ornithologists' Union founded, and who was its first president?
2. How many tons of seeds has the Tree Sparrow been estimated to destroy in a single state during the period of its presence?
3. What is the greatest number of species of birds observed at, or near, one locality in North America during a single day?
4. What bird is known to nest in only three places in North America?
5. At what height above the earth does a recent observer state that night-migrating birds fly?
6. How long after hatching do Ruby-throated Hummingbirds leave the nest?



WILLIAM DUTCHER. *Long Island*



T. GILBERT PEARSON. *North Carolina*



LYNDS JONES. *Ohio*



E. W. NELSON. *Mexico*

BIRD-LORE'S ADVISORY COUNCILORS
FIRST SERIES

How to Study Birds

BY FRANK M. CHAPMAN

FIRST PAPER

INTRODUCTORY

DURING the past three years BIRD-LORE has published a series of articles designed to be of permanent value to teachers and students of birds,—articles which should not be merely of passing interest but which should be of real assistance to our readers; articles to refer to as one would to a text-book. In 1900, it may be remembered, we presented a number of suggestive papers on methods in teaching ornithology, wherein such well-known teachers as Olive Thorne Miller, Florence Merriam Bailey, Lynds Jones and others explained their methods in the field, classroom or lecture-hall. In 1901 we published a series of articles on 'Birds and Seasons,' in which the bird-life of the vicinity of Boston, New York city, Philadelphia, Oberlin, Ohio; Chicago, and Stockton, Cal., was discussed month by month, and seasonal lists of birds, suggestions for the season's study and season's reading were given. During the past year these contributions have been followed by seven articles on the families of perching birds, treating the preliminary steps in a systematic study of birds. Thus, it will be seen that in natural sequence we have considered (1) how to teach birds, (2) when to find birds, and (3) how to name birds. It is now proposed to follow these subjects by a number of articles on 'How to Study Birds.' We have seen that identification, the naming of the bird, is, as might be expected, the first object of the student; and to this end we have told him when he may expect to find certain birds and how to make their acquaintance. But naming birds is only the first step in their study. Having learned to recognize a species, we should next begin to inquire into its habits, its life-history. A study of bird migration is usually the first subject in field ornithology which interests the student, once he has acquired some familiarity with the birds themselves. Migration, from the practical standpoint of dates, however, has been dealt with in our articles on 'Birds and Seasons,' and the thereto appended suggestions for the season's study contained numbers of hints to the student of this remarkable phenomenon. Next to the fascination of observing and recording the comings and goings of birds, the field student is probably most attracted by their habits while nesting, and it is this interesting phase of bird-life which we propose to study with BIRD-LORE's readers during the coming year. Mating, the selection of a nesting-site, nest-building, egg-laying, incubation, the care and habits of the young,—all these developments of the nesting season will receive our attention, with the especial object of telling the student what to look for and how to look at it. Hundreds of opportu-

nities to add to our knowledge of birds' habits during this most important part of their lives are lost simply because the persons to whom the opportunities come do not know what is known or what is unknown, what he should try to see or the significance of things seen.

The day has passed when general observations on the habits of our birds are likely to prove of value. Nor can the student hope to discover much that is new unless, after learning what we especially desire to know, he devotes himself systematically to the study of comparatively few birds; selecting, preferably, the most common species in his vicinity.



What Bird is This?

Field Description.—Length, 6.25 in. Brownish gray, lighter below, more or less streaked with whitish; in life a whitish line over the eye is more or less evident.

NOTE.—Each number of BIRD-LORE will contain a photograph, from specimens in the American Museum of Natural History, of some comparatively little-known bird, or bird in obscure plumage, the name of which will be withheld until the succeeding number of the magazine, it being believed that this method of arousing the student's curiosity will result in impressing the bird's characters on his mind far more strongly than if its name were given with the picture.

The species figured in October is Lincoln's Finch.

For Young Observers

The Screech Owl's Valentine

BY FLORENCE A. VAN SANT

A Screech Owl once set out to find
A comely mate of his own kind;
Through wooded haunts and shadows dense
He pressed his search with diligence;
As a reward
He soon espied
A feathered figure,
Golden-eyed.

"Good-night! my lady owl," said he;
"Will you accept my company?"
He bowed and snapped, and hopped about,
He wildly screamed, then looked devout.
But no word came,
His heart to cheer,
From lady owl,
That perched so near.

The suitor thought her hearing dull,
And for her felt quite sorrowful.
Again by frantic efforts he
Did try to woo her from her tree;
"Pray, loveliest owl,
The forest's pride,
Descend and be
My beauteous bride."

"A wedding feast of mice we'll keep,
When cats and gunners are asleep;
We'll sail like shadows cast at noon,
Each night will be a honey-moon."
To this she answered
Not one breath;
But sat unmoved
And still as death.

Said he, "I guess that she's the kind
 That people in museums find;
 Some taxidermist by his skill
 Has stuffed the bird, she sits so still.
 Ah me! that eyes
 Once made to see
 Should naught
 But ghostly specters be."

At this she dropped her haughty head
 And cried, "I'm neither stuffed nor dead.
 Oh! weird and melancholy owl,
 Thou rival of the wolf's dread howl:
 Since fate so planned,
 I'll not decline
 To be for life
 Your valentine."



SCREECH OWL

Photographed from life by A. L. Princehorn

Notes from Field and Study

Wintering Robins and Cedar Waxwings.

At Belmont, Massachusetts, adjoining Cambridge, where the venerable Waverley Oaks are within one of the public reservations, a bewildering number of birds was found on January 7 and 8, 1902. Upon reaching the grounds a very unusual activity in the quiet bird-life of midwinter was at once apparent. Many birds were flitting from bough to bough of the great oaks and the shrubbery beneath. The subdued cries of Robins reached the ear, and presently their coloration was seen. With them, but in closer groups, were Cedar Waxwings. They, too, were numerous, and upon a nearer approach many were seen to be in full beauty of plumage, the black markings about the bill strong, the brown of the back rich in shade, the yellow on the under side of the body almost as bright as the tips of the tail feathers, and the dots of scarlet upon the wings clearly discernable. Their pointed crests were well raised above their heads. They showed to a full degree that sleekness of plumage and refined air which are characteristic of the species. And now their 'wheezy whistles' were heard. Beneath the old oaks were privets well hung with berries, and red cedars. In among the boughs of these were many both of the Robins and Cedarbirds, making a satisfying meal. Occasionally from a high branch overhead came a Robin's 'cheerily, cheerily, cheerily.' Now a squad of Cedarbirds makes a rapid sweep through the air and returns to its perch in a tree-top. Now half a dozen Robins descend to the edge of a small stream, tributary to Beaver creek, and take a plunge. It is a happy company, not at all discouraged by rigors of winter. There is no suggestion that the season is going hard with them. Voices are cheerful, movements are quick.

But what is the number of each species? At length the Waxwings seem well settled in several smaller close flocks upon near

trees and can be counted with approximate accuracy. There are seventy-five or eighty. And now the Robins begin to pass in squads from the left to the right across an open space to another group of trees and shrubbery beyond. It is the time to get their number. Successively they go in half-dozens and twenties. The movement is all one way. Seventy-five, one hundred, have been counted. Still they go. One hundred and twenty-three, and there the movement stops. Now snow-flakes begin to sift down, and a chilling breeze quickens from the north. Notwithstanding there comes to the ear 'cheerily, cheerily, cheerily,' as the observer leaves the ground. By afternoon the snow was falling fast. It seemed of interest to ascertain whether all these birds were still at the reservation, stout-hearted and happy. So a second trip was made from the city. Yes; they were all there at three o'clock in the afternoon. Again an enumeration was made. The Cedarbirds numbered about the same as at noon. The Robins, however, as they repeated a one-direction flight, were reckoned up as one hundred and seventy-seven. So not all were seen at the noon hour. Just before four o'clock all took wing, both Robins and Waxwings. They were quickly lost to view in the fast-falling snow. Were they seeking some well-proved thick covert for the night? No longer could one be seen or heard. In the following forenoon, under skies still clouded and with five inches of newly fallen snow underfoot, a third trip to the 'Oaks' was made, to see if these flocks were repeating the visit of the day before. Yes; they were there again in full numbers. The Cedarbirds seemed to be rather more numerous and to be quite a hundred. The Robins reckoned up, as the first time, about a hundred and twenty-five. The privet berries were still in ample supply. The little stream flowed between snowy banks and afforded the same bathing facilities, which the Robins were again utilizing. To

the delight of the ear and the heart again came on the air the familiar song, 'cheerily, cheerily, cheerily'. And the subdued cries and cacklings betokened much of interested communication one with another. While enjoying this novel midwinter experience of all the Robins and Waxwings which one could wish for, there were also noted two Purple Finches in rose-colored plumage, two Goldfinches, Crows, Blue Jays, a Flicker and several Chickadees and Juncos. On the border of a meadow near by were heard and seen a Song Sparrow and a Swamp Sparrow. The latter had not been found there before, but Song Sparrows and Tree Sparrows have been frequently observed previous winters. Upon the ninth, in the forenoon, a fourth trip was made. The sky was clear, the sun warm, and the air soft. But under these conditions, which would seem to be alluring, no Robin or Cedarbird could be found within the reservation during a two-hours' stay. Still there were privet berries there to attract them, although much reduced in number by so many mouths.—HORACE W. WRIGHT, *Boston, Mass.*

The Twentieth Congress of the American Ornithologists' Union

The business meeting of the Twentieth Annual Congress of the American Ornithologists' Union was held November 17, 1902, at the residence of Dr. C. Hart Merriam in Washington, D. C. The following Fellows were in attendance:

J. A. Allen, W. B. Barrows, F. E. L. Beal, William Brewster, L. B. Bishop, Frank M. Chapman, W. W. Cooke, C. B. Cory, Ruthven Deane, Wm. Dutcher, J. Dwight, Jr., A. K. Fisher, F. A. Lucas, C. Hart Merriam, E. W. Nelson, T. S. Palmer, William Palmer, C. W. Richmond, T. S. Roberts, John H. Sage, Witmer Stone.

The election of officers resulted in the choice of those selected in 1901, namely: President, C. Hart Merriam; vice-presidents, C. B. Cory, C. F. Batchelder; secretary, John H. Sage; treasurer, William Dutcher; counselors, Frank M. Chapman, Ruthven Deane, J. Dwight, Jr., A. K. Fisher, E. W. Nelson, T. S. Roberts, Witmer Stone.

The following additions were made to the membership of the Union:

Honorary Fellows, Ernst Hartert, Tring, England; John A. Harvie-Brown, Stirlingshire, Scotland. Fellow, Harry C. Oberholser. Corresponding Fellows, A. J. Campbell, Melbourne, Australia; A. J. North, Sydney, Australia; H. von Jhering, San Paulo, Brazil. Members, Andrew Allison, Paul Bartsch, A. C. Bent, W. C. Braislin, Hubert Lyman Clark, E. A. Goldman, A. H. Howell, F. H. Knowlton, A. H. Norton, T. Gilbert Pearson, S. F. Rathbun, P. M. Silloway, C. O. Whitman. Eighty-two Associates were elected.

The public sessions of the Union were held at the United States National Museum November 18–20. A list of the papers presented is given on page 203 of this issue of BIRD-LORE. Many of these papers were of more than usual interest and value, and provoked much comment and discussion.

Luncheon was provided each day by the Washington members of the Union, and from both social and scientific points of view the congress was one of the most successful ever held by the Union. The attendance exceeded that at any previous congress.

The Union adjourned on Thursday, November 20, to meet in Philadelphia on November 16, 1903.

The Death of Mr. Barlow

With extreme regret we learn of the death of Mr. Chester Barlow at Santa Clara, California, on November 6, in the twenty-eighth year of his age.

Both personally and as editor of 'The Condor,' Mr. Barlow exerted an influence of unusual importance on ornithological interests in California. One of the founders of the Cooper Club, the success of that organization was, in no small measure, due to his energy and executive ability, to which also may in great part be attributed the high standard of the Club's official organ. Mr. Barlow's death at so early an age is, therefore, not only peculiarly sad, but it deprives the Club with which he was so prominently associated of an active, earnest, efficient worker, whose place, we imagine, it will be very difficult to fill.

Book News and Reviews

HANDBOOK OF BIRDS OF THE WESTERN UNITED STATES. By FLORENCE MERIAM BAILEY. Illustrated by LOUIS AGASSIZ FUERTES and others. Houghton, Mifflin & Co., Boston, Mass. 1902. 12mo. 88+487 pages+index; 36 full-page plates, 2 diagrams, 601 figures in the text. Price, \$3.50 net and 19 cents postage.

Lacking space in which to give an adequate idea of the surprising amount of information contained in this volume, or of its sterling value as a text-book, we feel tempted to begin and end our review by urging every one interested in the birds of our western states to procure a copy of this 'Handbook' with the least possible delay. Experience with bird students, as well as with birds, has given the author all needed training for her task, while the unexcelled collections to which she has had access have furnished the best available equipment for the technical side of her work.

Some conception of the contents and method of treatment of the book may be gained from the appended summary. The introduction of 88 pages contains instructions for collecting and preparing birds, their nests and eggs, and recording observations; sections on 'Life Zones,' 'Migration,' 'Economic Ornithology,' 'Bird Protection;' local lists from Portland, Oregon, San Francisco Bay, Santa Clara Valley and Santa Cruz Mountains, and Pasadena, California, Fort Sherman, Idaho, Cheyenne, Wyoming, and Pinal, Pima, and Gila Counties, Arizona. There are also extended lists of books and papers on birds and a detailed explanation of how to use the 'Keys' which follow.

The systematic portion of the book, treating the birds of the United States west of the one-hundredth meridian, comprises, (1) a key to the orders; (2) key to the families; (3) keys to the genera; (4) generic characters; (5) keys to the species; (6) descriptions of plumages; (7) distribution; (8) description of nest and eggs; (9)

food; (10) biographies, part of which have been supplied by Vernon Bailey.

For all of this, both as regards matter and manner, we have only the highest commendation to offer; in short, in our opinion, the work is the most complete text-book of regional ornithology which has ever been published.—F. M. C.

BIRDS OF THE ROCKIES. By LEANDER S. KEYSER. With eight full-page plates (four in color) by LOUIS AGASSIZ FUERTES; many illustrations in the text by BRUCE HORSFALL, and eight views of localities from photographs. With a complete check-list of Colorado birds. Chicago. A. C. McClurg & Co. 1902. Square 12mo. ix+355 pages; illus. as above. Price, \$3, net.

In this handsome, beautifully illustrated volume, Mr. Keyser tells the story of two seasons ("Spring of 1899, and again in 1901") among the birds of Colorado. Readers of his previous works are familiar with his love of the bird in nature and his glowing portrayal of his experiences afield; and in this last volume his undiminished ardor in the pursuit of some, to him, new bird and his keen delight in making its acquaintance, serve not only to give pleasure to his audience but well illustrate the undying enthusiasm of the genuine bird-lover.

Selecting a region whose birds were for the most part strangers to him and where altitude added much of interest in studying distribution, Mr. Keyser abandoned himself to the fascinations of bird study on plains and foothills, mountain parks and peaks; and his recountal of his experiences cannot fail to arouse the spirit of desire in the minds of those who follow his pages.

The book possesses a scientific as well as literary value, many of Mr. Keyser's observations being of permanent worth; though, from the scientific point of view, the value of his text would have been increased if he had not been quite so sparing of dates.

In the matter of illustrations the publishers have been both liberal and discriminating, securing two well-equipped artists and reproducing their work in a thoroughly satisfactory manner. The photographs of typical scenes are rendered extremely instructive by detailed captions explanatory of their significance and naming the birds characteristic of the locality depicted.—F. M. C.

BIRDS OF THE CAPE REGION OF LOWER CALIFORNIA. By WILLIAM BREWSTER. Bull. Mus. Comp. Zool., XLI, No. 1, 1902. 241 pages; 1 map.

Based primarily on the field-work and collections of Mr. M. Abbott Frazar, who was sent by Mr. Brewster to the Cape Region, this book also includes whatever it has seemed desirable to quote from the publications of previous authors, and it therefore forms a complete exposition of our knowledge of the bird-life of the region to which it relates. It is prepared with the care and attention to detail which characterizes all its author's published writings and at once takes its place among the standard treatises on faunal ornithology.

After defining the limits of the Coast Region and presenting a narrative of Mr. Frazar's explorations, the 167 species and 88 subspecies known from the Cape Region are treated at length. Of this number 36 species and subspecies are here recorded from the Cape Region for the first time; while Mr. Frazar's activity in the field yielded 3 new species and 12 new subspecies, 3 of which, with a new Screech Owl, are described in this important paper.—F. M. C.

BIRDS OF THE HAWAIIAN ISLANDS. By H. W. HENSHAW. Thos. G. Thrum, Publisher, Honolulu, H. T. Price, \$1. 12mo. 146 pages; 1 plate.

Readers of BIRD-LORE will recall Mr. Henshaw's interesting papers on Hawaiian birds published in this magazine in 1901, and will be glad to learn that this author has placed in accessible form the results of his wide experience with Hawaiian birds, including, also, the better part of that which has been recorded by other workers among these islands.

In an admirable introduction of 28 pages the peculiar conditions affecting Hawaiian bird-life, its origin, the faunal zones of the island, etc., are discussed, and the 125 birds native to the islands are then described, under each species being given the known facts in its history as a Hawaiian bird; we have here, therefore, a complete text-book of the Hawaiian avifauna.

Ten species of birds have been successfully introduced into the islands, among them the Skylark, and it is most instructive to observe with what facility most of these birds appear to have established themselves.

Lack of space prevents a more extended notice of this important contribution to the literature of ornithology and island-life. American ornithologists will now feel that their loss, when Mr. Henshaw left this country to take up his residence in Hawaii, was at least sustained in a good cause.—F. M. C.

The Ornithological Magazines

THE AUK.—In the October 'Auk' will be found two papers on West Indian birds, one the conclusion of a list of 'The Birds of the Island of Carriacou,' by J. G. Wells, the other a similar list of 'Birds of Porto Rico,' by B. S. Bowdish, to be continued. Both are pleasantly annotated. A paper also worthy of consideration is by R. E. Snodgrass, on 'The Relation of the Food to the Size and Shape of the Bill in the Galapagos, Genus *Geospiza*.' There are plates and tables of the seeds found in 209 specimens of about a dozen species of the genus, and we read "that one is almost forced to the conclusion that all the species of *Geospiza* eat simply whatever seeds are accessible to them." The evidence indicates that "there is no correlation between the food and the size and shape of the bill."

Under the title of 'A New Long-billed Marsh Wren from Eastern North America,' O. Bangs puts in the subspecific wedge and splits the inland fresh-water bird from the dweller of the salt-marshes. We will hope that salt has been put upon the right tail in catching the subspecies. 'The Nomenclature and Validity of Certain North American Gallinæ' is a defense by E. W. Nelson

of the status of several Mexican species (chiefly Quail) recently discredited by Mr. Ogilvie-Grant. Two half-tone plates seem to sustain Mr. Nelson's views. 'A Description of the Adult Black Merlin,' by F. H. Eckstorm, shows ingenuity, introducing, for instance, "high lights" to "demark" a crown patch otherwise concolor. 'A Hybrid between the Cliff and Tree Swallows' is described by F. M. Chapman, and C. W. Wickham writes on the 'Sickle-billed Curlew.' There is much of interest among the numerous notes and reviews that fill thirty pages.—J. D., Jr.

THE CONDOR.—The leading articles of the September-October number of 'The Condor' are very appropriately devoted to the life and work of Dr. James G. Cooper, the distinguished ornithologist and naturalist, who died July 19, 1902, and in whose honor the Cooper Ornithological Club was named. His death marks the passing of the last of the naturalists connected with the Pacific Railroad Surveys who laid the foundations of our knowledge of western birds. The brief but sympathetic biographical sketch by Emerson is illustrated by reproductions of a photograph of Dr. Cooper taken in 1865, and a view of his home at Haywards, California. Dr. Cooper attained the age of seventy-two years, and during the forty years in which his researches were actively carried on, published about seventy-five papers on the natural history of the Pacific coast. The titles of his ornithological writings have been collected by Grinnell, who contributes a complete annotated list of twenty-six papers, the most important of which are the report on the birds of Washington, in the reports of the Pacific Railroad Surveys, 1860, and the 'Ornithology of California,' 1870.

The first part of an important paper on 'The Redwood Belt of Northwestern California,' by Walter K. Fisher, is devoted to a discussion of the faunal peculiarities of the region. Lists of the characteristic plants and birds are given, and the difficulties attending a precise definition of the life zones of this belt are clearly shown. 'The

status of the Arizona Goldfinch in California' is reviewed by Grinnell, who concludes that the so-called *Astragalinus psaltria arizonae* which is found in California is merely a peculiar plumage of *A. psaltria*, in which the black dorsal markings are unusually extended. Two other papers which merit special mention are Barlow's 'Observations on the Rufous-crowned Sparrow,' illustrated by an excellent half-tone of the nest and eggs; and Sharp's 'Nesting of the Swainson Hawk.' The latter article contains the curious misstatement that the bird's food supply "consists wholly of those four-footed pests which every farmer and ranchman recognizes as among his worst enemies." As a matter of fact, Swainson's Hawk is remarkable for the large number of grasshoppers it destroys. A specimen which I examined at Pomona, California, on August 31, 1887, contained the heads of more than one hundred and thirty of these insects.—T. S. P.

WILSON BULLETIN.—'Wilson Bulletin' No. 40 contains a number of interesting papers, but we can not help regretting the lateness of its arrival. This tendency among natural history magazines to delay publication far beyond the designated period is a growing evil, and is one for which there is little excuse. The fault usually lies with the contributors, whose belated ideas prevent the good-natured editors from liberating the proof at the proper time. All, however, should have sufficient pride to be willing to coöperate with the editors in making the magazines business-like productions.

The opening paper by Rev. W. F. Henninger on the Birds of Scioto and Pike counties, Ohio, is a well-prepared annotated list covering 216 species, classified under the following categories: residents, 42; summer residents, 61; regular transients, 65; irregular and rarer transients, 27; winter residents, 10; accidental visitors, 7; extinct, 2; introduced, 2. The observations were made chiefly at three localities and ran through a period from the summer of 1894 to that of 1902. Notes on the arrival and departure are given for many of

the species, and their relative abundance is always stated. As both Chickadees are given as common residents, remarks on their local distribution would have been interesting. In working out the 'Spring Migration of 1901' in Lorain county, Ohio, R. L. Baird has given a tolerably complete index of the movements of the birds of that section during their northward flight. A table is appended patterned after those published in BIRD-LORE giving the species arriving between February 15 and May 15. This table is divided into ten parts, each of which covers from 5 to 10 days, so that it is easy to observe just what combination of species arrive between certain dates. In an article on 'Maryland Birds,' Rev. J. H. Langille shows among other things how adequate protection during spring will induce birds to nest in increasing numbers.

As soon as proper laws were enforced in Baltimore and Washington the sale of song-birds in the game markets practically stopped and the lives of myriads of Robins and other birds were spared throughout the surrounding country. We might point out in this connection that waterfowl when unmolested will return in like manner to their former breeding grounds. Two years ago Jefferson county, New York, abolished spring shooting. The experiment fully demonstrated the soundness of the movement, for the Ducks at nesting time resorted to the marshes in such numbers that when autumn came their bountiful flight was a surprise to everyone.—A. K. F.

Program of the Twentieth Congress of the American Ornithologists' Union

At the morning and afternoon sessions of the Union, held at the United States National Museum, Washington, D. C., November 18-20, 1902, the following papers were presented:

- Notes on the Life of Edward Harris, with Extracts from his Journals. George Spencer Morris.
- The Development of the Pterylosis. Hubert Lyman Clark.
- The Domestic Affairs of Bob-white. John N. Clark.

Summer Bird-Life of Eastern North Carolina. T. Gilbert Pearson.

Change of Color without Molt. R. M. Strong.

Iridescence and White Feathers. R. M. Strong.

Some Problems of Local Bird Population. Walter B. Barrows.

Notes on *Picoides americanus* and *Picoides arcticus* in Minnesota. Illustrated with lantern slides. T. S. Roberts.

Comparison of the Bird-Life of Gardiner's Island and Cobb's Island. Illustrated with lantern slides. Frank M. Chapman.

A Contribution to the Life-History of the Herring Gull. Illustrated with lantern slides. By W. L. Baily and William Dutcher.

The A. O. U. Check-List—its History and its Future. J. A. Allen.

A Glance at the Historical side of the Check-List of North American Birds. Witmer Stone.

Evolution of Species and Subspecies as illustrated by certain Mexican Quails and Squirrels. E. W. Nelson.

Form in Bird Music. H. W. Olds.

Ancient Birds and their Associates. Illustrated with lantern slides. F. A. Lucas.

Observations on the Herons of the District of Columbia. Illustrated with lantern slides. Paul Bartsch.

Bird-Life in the Bahamas. Illustrated with lantern slides. Frank M. Chapman and Louis Agassiz Fuertes.

Report of the Chairman of the Committee on the Protection of North American Birds. William Dutcher.

Federal Game Protection in 1902. T. S. Palmer.

Some Variations in the Piping Plover. (*Ægialitis meloda*.) Jonathan Dwight, Jr.

Nesting of the Red-bellied Woodpecker in Harford County, Maryland. Wm. H. Fisher.

Some Food Habits of West Indian Birds. B. S. Bowdish.

The Significance of Trinomials in Nomenclature. Witmer Stone.

An Epidemic of Roup in the Canandaigua Crow Roost. Elon Howard Eaton.

Bird-Lore

A Bi-monthly Magazine

Devoted to the Study and Protection of Birds

OFFICIAL ORGAN OF THE AUDUBON SOCIETIES

Edited by FRANK M. CHAPMAN

Published by THE MACMILLAN COMPANY

Vol. IV Published December 1, 1902 No. 6

SUBSCRIPTION RATES

Price in the United States, Canada, and Mexico twenty cents a number, one dollar a year, postage paid.

Subscriptions may be sent to the Publishers, at Harrisburg, Pennsylvania, or 66 Fifth Avenue, New York City.

Price in all countries in the International Postal Union, twenty-five cents a number, one dollar and a quarter a year, postage paid.

COPYRIGHTED, 1902, BY FRANK M. CHAPMAN

Bird-Lore's Motto:

A Bird in the Bush is Worth Two in the Hand

1902

Each year, in reviewing the contributions to the literature of ornithology made during the preceding twelve months, it has not seemed possible that a succeeding period of equal time would witness the production of so many and, in the main, such excellent books and papers on birds. But one by one they appear, and when we reckon the sum total for 1902 we find no evidence of a decrease in their number.

In systematic ornithology the second volume of Mr. Ridgway's great work on the 'Birds of North and Middle America' takes first place; and under this head are to be included the third volume of Dr. Sharpe's 'Hand-List' of the birds of the world and Mr. Oberholser's critical studies of the Horned Larks.

A text-book which will exert a marked influence on the study of birds in our western states is Mrs. Bailey's 'Handbook of the Birds of the Western United States,' a publication of the first importance.

In original research Dr. R. M. Strong's paper on the development of pigment in feathers may be counted the year's most valuable contribution to subjective ornithology; merited praise it gives us pleas-

ure to bestow. Here, also, should be mentioned Dr. Dwight's continued studies of the molt.

The most startling find of the year in the field, is undoubtedly Professor Blatchley's discovery of Great Auk's bones in Florida, subsequently confirmed by Professor Hitchcock. In exploration, the results of Mr. Preble's trip to the Hudson Bay region add much to our knowledge of the bird-life of that little-visited land. Mr. Brewster's 'Birds of the Cape Region of Lower California' is also a welcome contribution to the faunal and biographical literature of ornithology and will long remain a standard treatise on the birds of that region. Mr. Grinnell's 'Check-List of California Birds,' is a state list of exceptional value, and lists have also been published of the birds of Oregon and Vermont by Woodcock and Perkins, respectively. Mr. Silloway's 'Summer Birds of Flathead Lake' deserves mention here, and Mr. Burns' 'Sectional Bird Census' is a capital piece of field work.

Of original observation presented in popular form and none the less valuable for that,—in fact, more valuable in that it reaches a wider audience—the camera-illustrated books call for first mention, because they convey their information through a graphic medium more impressive and more instructive than written descriptions of the scene or fact figured can possibly be. Mr. Job's 'Among the Water Fowl' is a good book of this class, and Mrs. Wheelock's 'Nestlings of Forest and Marsh' shows how much may be gleaned in old fields. Possessed of both popular and scientific value, as well as beauty of make-up, is Mr. Keyser's 'Birds of the Rockies' which takes the reader to new scenes among birds concerning which there is much yet to learn.

Of educational value is Professor Hodge's 'Nature Study and Life,' with its generous section devoted to birds, and Mr. Lord's 'Birds of Oregon and Washington,' which has been adopted for use in the schools of those states. Both educational and practical is Neltje Blanchan's 'How to Attract the Birds,' with its many hints to those who would have birds about their homes.

In the movement for bird protection much activity of a practical kind has been shown. The American Ornithologists' Union; through Mr. Dutcher and Dr. Palmer, has worked largely from the legal point of view, in enforcing existing laws and securing the enactment of new ones; while the Audubon Societies have continued to develop the educational side of their work, in which everywhere there seems to be great interest.

While, therefore, there have been no especially remarkable developments in 1902, the year has been one of most assuring progress.

Bird-Lore for 1903

With its next issue BIRD-LORE will enter upon its fifth volume. Five years is not usually considered an exceptionally long period in the life of a magazine, but we believe that there have been only five ornithological journals in this country which have lived to see their fifth birthday, while the number of those which have expired in early youth is the despair of the bibliographer! The magazine of ornithology, therefore, which lives to see its fifth year has cause for congratulation, and may well return thanks to those to whom its continued existence is due. We want, however, to express our thanks in some medium more valuable than mere words, and as an earnest of our desire to deserve the support which has been so generously given us, we append an outline of our plans for 1903.

Probably no feature of BIRD-LORE for the coming year will create greater interest than the publication of the portraits of the members of the Advisory Council. Bird men are sometimes almost as interesting as birds, that is, to other bird men familiar with their accomplishments; and we are assured that this photographic symposium will have its practical bearing on the relations between the members of the Council and those who avail themselves of their assistance.

The series of articles on Bird Clubs in America will be continued by the publica-

tion of historical accounts of the Spencer F. Baird Club, by Mrs. Edward Robins, the Nebraska Ornithologists' Union, by Professor Bruner, and the Colorado Ornithological Association, by Dr. Bergtald.

William Brewster, Dr. J. Dwight, Jr., and other well-known ornithologists will write on American birds, Charles Keeler will tell his impressions of some New Zealand birds and A. J. Campbell, of Melbourne, will describe the remarkable nesting habits of the mound-building birds of Australia, illustrating his paper with the first photographs of the mounds of these birds to be published in this country.

'Bird-Life on the Dry Tortugas,' by Dr. Joseph Thompson, U. S. N., who is resident at this stepping-stone of the birds on their journey from Florida to western Cuba, will include data on bird migration as well as notes on the breeding habits of the sea-birds, which come to the islands in immense numbers to breed. The latter portion of Dr. Thompson's paper will be illustrated by photographs made by Dr. A. M. Mayer.

In view of the expected appearance of Dr. Coues' new 'Key to North American Birds,' the manuscript of which was completed before its author's death, an article on the first (1872) edition of this epoch-making work by its publisher, Prof. F. W. Putnam, will be of peculiar interest. With Professor Putnam's paper we will reproduce the proof of the first page of the systematic portion of the 'Key,' with many characteristic annotations by Dr. Coues.

Our plan to publish records of the migration of Warblers has been abandoned, owing to our discovery, since announcing the proposed publication of such data, that Professor W. W. Cooke, of the Biological Survey, has in preparation a bulletin on this subject which will no doubt thoroughly cover the ground.

We expect, however, to publish a series of papers on a study of birds during the nesting season, which we believe will be found to be of practical value.

The Audubon Societies

*"You cannot with a scalpel find the poet's soul,
Nor yet the wild bird's song."*

Edited by MRS. MABEL OSGOOD WRIGHT (President of the Audubon Society of the State of Connecticut), Fairfield, Conn., to whom all communications relating to the work of the Audubon and other Bird Protective Societies should be addressed. Reports, etc., designed for this department should be sent at least one month prior to the date of publication.

DIRECTORY OF STATE AUDUBON SOCIETIES

With names and addresses of their Secretaries

New Hampshire.....	MRS. F. W. BATCHELDER, Manchester.
Vermont	MRS. FLETCHER K. BARROWS, Brattleboro.
Massachusetts.....	MISS HARRIET E. RICHARDS, care Boston Society of Natural History, Boston.
Rhode Island	MARTHA R. CLARKE, 89 Brown street, Providence.
Connecticut	MRS. WILLIAM BROWN GLOVER, Fairfield.
New York.....	MISS EMMA H. LOCKWOOD, 243 West Seventy-fifth street, New York City.
New Jersey.....	MISS JULIA SCRIBNER, 510 E. Front street, Plainfield, N. J.
Pennsylvania.....	MRS. EDWARD ROBINS, 114 South Twenty-first street, Philadelphia.
Delaware.....	MRS. WM. S. HILLES, Delamore Place, Wilmington.
Maryland.....	MISS ANNE WESTON WHITNEY, 715 St. Paul street, Baltimore.
District of Columbia.....	MRS. JOHN DEWHURST PATTEN, 2212 R street, Washington.
Virginia.....	MRS. FREDERICK E. TOWN, Glencarlyn.
North Carolina.....	T. GILBERT PEARSON, Greensboro.
South Carolina.....	MISS S. A. SMYTH, Legare street, Charleston.
Florida.....	MRS. I. VANDERPOOL, Maitland.
Missouri.....	AUGUST REESE, 2516 North Fourteenth street, St. Louis.
Oklahoma.....	MRS. ADELIA HOLCOMB, Enid.
Ohio.....	MRS. D. Z. MCCLELLAND, 5265 Eastern ave., Cincinnati.
Indiana.....	W. W. WOOLEN, Indianapolis.
Illinois.....	MISS MARY DRUMMOND, 208 West street, Wheaton.
Iowa.....	MRS. L. E. FELT, Keokuk.
Wisconsin.....	MRS. REUBEN G. THWAITS, 260 Langdon street, Madison.
Minnesota.....	MISS SARAH L. PUTNAM, 125 Inglehart street, St. Paul.
Wyoming.....	MRS. N. R. DAVIS, Cheyenne.
Kentucky.....	INGRAM CROCKETT, Henderson.
Tennessee.....	MRS. C. C. CONNER, Ripley.
California.....	MRS. GEORGE S. GAY, Redlands.
Oregon.....	MISS GERTRUDE METCALFE, 634 Williams ave., Portland.

Reports of Societies

Audubon Society of New York State

In reviewing the work of the past eighteen months, since the last annual meeting was held, on March 8, 1901, the New York Audubon Society has cause for much encouragement. We now stand to face any adverse conditions, supported by the strong arm of both state and federal law. The bill securing protection to Gulls and Terns was signed by Governor Odell, March 12, 1901. This was due to the untiring effort of Mr. Dutcher, who in making his final report to our Executive Committee, as a committee on law, said: "All that has been attempted for the betterment of the New York law for bird protection, has been successfully accomplished."

The anti-pigeon shooting bill was a great victory won by the Society for the Prevention of Cruelty to Animals. In behalf of this bill the Audubon Society sent appeals throughout the state urging its support. Appeals urging the passage of the Alaska bill and Forest Reserve bill were also sent out. Through our local secretaries many signatures were obtained and forwarded to our senators at Washington. The Alaska bill became a law on June 7, 1902.

The Society is now better equipped to develop the educational features of the work than ever before. We are much indebted to the thought and energy of Miss Eliza S. Blunt, one of our local secretaries, who raised one hundred dollars to enable the Society to purchase a lantern and set of

seventy-five colored slides of our native birds. A lecture has been compiled from 'Bird-Life' to accompany this outfit, which is entrusted to the care of our local secretaries, who may loan it to responsible persons in adjacent towns. Clergymen, principals of schools and directors of farmers' granges have already been interested. The only expense to be met is the expressage to the next point of destination, as the lantern box is always sent prepaid.

The Society now possesses three sets of colored plates from Mr. Chapman's 'Bird-Life.' These are loaned for work in classes, upon application from our local secretaries. Fifty colored wall charts, issued by the Massachusetts Audubon Society, have been distributed among the local secretaries. These may be loaned to schools, to clubs, to lecturers for special occasions, wherever they will serve to advance the educational work.

The only new leaflet issued is an especially valuable one,—a list of books recommended to the bird-student. This pamphlet was compiled by Mrs. Olive Thorne Miller, and contains notes describing the contents of each work mentioned, to guide the purchaser. Altogether, over 17,340 leaflets and law posters have been distributed since the last report, March, 1901.

Ten meetings of the Executive Committee have been held, with Mr. Chapman as chairman.

In November, 1901, the New York Society had the pleasure of welcoming delegates from eleven other Audubon Societies to the second Audubon Conference, held in the American Museum of Natural History. The result of this conference was the formation of a National Committee of Audubon Societies, of which our own delegate to this committee, Mr. Dutcher, has been the able chairman for the past year. This National Committee is particularly valuable in securing prompt concerted action in any matter of national import. It is a pillar of strength to the cause of bird protection.

Eleven new local secretaries have been added to our list, making the present number sixty-eight. The fidelity of these local

secretaries cannot be too highly commended. They are watching conditions in all parts of the state, and sowing the educational seed in communities utterly callous to the cause of bird protection; they are forming bands of little converts, keeping them interested in the work by 'Bird Talks,' organizing classes and taking them out to the woods and fields; all of this often at much personal sacrifice of time, as many of them are teachers, or in other busy walks of life.

With the coöperation of the American Museum of Natural History, the Linnæan Society and the Audubon Society, last spring, Saturday afternoon talks were given to teachers at the Museum. The class was held for eight consecutive weeks, and was enjoyed by an audience of one hundred and seventy-five or two hundred teachers.

The present total membership of the Society is now 3,418, and this constant expansion of the influence of the Society must go hand in hand with increase of income. The chief means of support comes from the annual dues of the sustaining members. I would most earnestly urge all members and friends of the Society to use the utmost possible effort to increase this class of membership. Much has been gained. If our work is now to be put to the test, we must not fail for lack of funds. The New York Audubon Society must appeal to each loyal member to manifest in its service courage, constant effort and an abiding sense of personal, individual responsibility for the welfare of the bird.—EMMA H. LOCKWOOD, *Secretary*.

Third Annual Conference of Audubon Societies

The Third Conference of Audubon Societies, held in Washington, D. C., November 19 and 20, 1902, was a marked success. Through the efforts of the District of Columbia society an excellent program was prepared. The proceedings of the conference were, consequently, well-directed and attended by definite results.

A public session of the societies for the consideration of papers on educational methods in Audubon work was held in

the Columbian University at 8.15 P. M. November 19, Surgeon-General Sternberg, president of the local society, presiding. The following papers were presented:

1. Introductory Remarks, Dr. T. S. Palmer; 2. Ornithology in the Schools, Mrs. Olive Thorne Miller; 3. Traveling Libraries, Miss Hilda Justice; 4. Traveling Libraries and Lectures, Mr. O. B. Zimmerman; 5. Publications, Miss Harriet E. Richards; 6. Free Lectures—Free Bird Charts—Free Circulating Libraries, Mrs. Mabel Osgood Wright.

During the discussion which followed the presentation of these papers, Prof. T. Gilbert Pearson, secretary of the North Carolina society, in an eloquent address, spoke of the importance of scientific accuracy in the reasons for bird-protection presented to the public, but, once assured of the correctness of their claims as to the value of birds, he urged the societies to repeat them with a force and insistence which should win them the recognition they deserved.

At 10 A. M. the following day there was a joint meeting of the Audubon societies and the American Ornithologists' Union to listen to the reports on bird protection of William Dutcher, chairman of the Union's committee on bird protection, and of Dr. T. S. Palmer, in charge of the enforcement of the Federal law for bird protection.

At 8 o'clock the evening of the same day the meeting of delegates to the national committee of the Audubon societies was held at the residence of Mrs. J. D. Patten, secretary of the District of Columbia society. Fifteen societies were represented, as follows:

Delaware, Mrs. R. L. Holliday; District of Columbia, Dr. T. S. Palmer; Florida, Mr. R. W. Williams, Jr.; Illinois, Mr. Ruthven Deane; Massachusetts, Miss Harriet E. Richards; Minnesota, Dr. Thomas S. Roberts; New York, Mr. William Dutcher; North Carolina, Prof. T. Gilbert Pearson; Ohio, Miss A. L. Hall; Oregon, Wm. R. Lord; Pennsylvania, Mr. Witmer Stone; Vermont, Mrs. E. B. Davenport; Virginia, Mrs. J. C. Plant; Wisconsin, Mrs. Robert K. Shaw; Wyoming, Mr. Frank Bond. Delegate by election, representing BIRD-LORE, Frank M. Chapman.

Mr. Dutcher, who was reelected chairman of the committee, in reporting on the activities of the past year, stated that, in addition to giving a large share of his time to bird-protective work, he had personally expended in clerk hire the sum of \$700; and, while he was willing to give one-half his time to the duties of chairman of the committee, he did not feel that he could longer defray the expenses incident to their proper performance. He, therefore, asked the societies to contribute the \$700 required for clerical labor during the ensuing year.

The sum of \$400 was at once subscribed by several of the delegates present, and, on motion, it was resolved that each delegate report the matter to his society, and that the action of each society be, in turn, reported to the chairman of the National Committee.

In view of the great importance of Mr. Dutcher's work, which reaches a field untouched by the state societies, and which, at the same time, is of much assistance to every society, it is earnestly to be hoped that the sum he needs for clerical help will be forthcoming. Unquestionably, the amount required could not be expended more profitably.

On motion, it was decided that during the coming year the National Committee's efforts to secure the passage of bird protective laws be restricted to the states of Virginia, North Carolina, Tennessee, Missouri, California, Oregon and Washington.

On motion, a committee composed of the chairman, Frank M. Chapman, T. S. Palmer and Witmer Stone was appointed to make an especial examination of the sample stock of wholesale millinery dealers before these dealers had placed their orders for their fall supplies, with the object of calling their attention to the feathers which could not be legally sold in this country.

The question of coöperative publishing, through the National Committee, was discussed, as was also the possibility of establishing with the chairman of the National Committee a bureau for the exchange of lantern-slides, both projects appearing to be feasible.

P
Biol
A

Audubon Magazine
Bird = Lore

CANCELLED

AN ILLUSTRATED BI-MONTHLY MAGAZINE DEVOTED TO
THE STUDY AND PROTECTION OF BIRDS

EDITED BY

FRANK M. CHAPMAN

Official Organ of the Audubon Societies

AUDUBON DEPARTMENT EDITED BY

MABEL OSGOOD WRIGHT

VOLUME V—1903

562045
23 H 53

THE MACMILLAN COMPANY
HARRISBURG, PA., AND NEW YORK CITY

COPYRIGHT, 1903
BY FRANK M. CHAPMAN

124048

INDEX TO ARTICLES IN VOLUME V BY AUTHORS

- Abbott, Clinton G., A Christmas Bird Census, 16; European Birds in America, 163.
- Allen, Francis H., A Swimming Crow, 63.
- Antes, Frank I., A Nuthatch's Nest, 196.
- Arnold, Clarence M., A Robin's Defence of its Nest, 133.
- Baily, William L., Treasurer, Report of, 73.
- Baird, Robert L., A Christmas Bird Census, 19.
- Barker, Samuel H., A Christmas Bird Census, 18.
- Barrows, Stella M., Secretary, Report of, 208.
- Barrows, Mrs. F. K., Secretary, Report of, 39.
- Baynes, Ernest Harold, Photographs by, 55.
- Beck, R. H., Photograph by, 183.
- Beebe, C. William, Some Notes on the Psychology of Birds, 127.
- Bent, A. C., A North Dakota Slough, 146.
- Bildersee, Isaac, A Christmas Bird Census, 16.
- Blain, Alexander W., Jr., A Christmas Bird Census, 19.
- Bowdish, B. S., Photographs by, 13.
- Brennan, Charles F., A Christmas Bird Census, 19.
- Brewster, William, A Tragedy in Nature, 151.
- Bruen, Frank, Ford, R. W., and Newton, Manross, A Christmas Bird Census, 15.
- Campbell, A. J., The Mound-Building Birds of Australia, 3.
- Carter, John D., A Christmas Bird Census, 17.
- Chapman, Frank M., A Christmas Bird Census, 17, 194; How to Study Birds, The Nesting Season, 25, 56, 89; Reviews by, 31, 33, 65, 66, 101, 134, 135, 167, 201, 202; Editorials by, 35, 68, 103, 136, 170, 188, 204; The Bird Life of Cobb's Island, 109; An Island Eden, 175; Pine Grosbeak at Englewood, N. J., 199.
- Christensen, Abby, A Christmas Bird Census, 18.
- Clarke, Martha R., Secretary, Report of, 139.
- Cleveland, Lilian; Nesting of the Indigo Bunting, 87.
- Comey, Arthur C., and Griswold, Merrill, A Christmas Bird Census, 15.
- Cooke, W. W., The Migration of Warblers, 188.
- Cram, William Everett. See Selleck, George H.
- Crosby, M. S., A Christmas Bird Census, 16.
- Crosby, E. H., Dove's Nest on the Ground, 133.
- Davenport, E. B. Secretary, Report of, 208.
- Davis, Edward M. See Comey, Arthur C.
- Dean, R. H., A Christmas Bird Census, 18.
- Denwood, John, A Christmas Bird Census, 15; Starling in Massachusetts, 133.
- Dike, A. C., A Phœbe with Three Nests, 198.
- Dolbear, Mary E., Attracting Birds, 30.
- Drummond, Mary, Secretary, Report of, 172.
- Dutcher, William, The Wild Pigeon, Educational Leaflet by, 209.
- Dwight, J. Jr., Reviews by, 66, 101, 167, 202; How Birds Molt, 156.
- Esinger, C. E. See Jackson, Thomas.
- Emerson, Guy, A Christmas Bird Census, 14.
- Eustis, Richard S. See Turner, Howard M.
- Evans, Allen, Jr., and Rowland, Jr., A Winter Cardinal, 203.
- Evans, William B., A Christmas Bird Census, 17.
- Fine, Jack, and West, Randolph, A Christmas Bird Census, 17.
- Fisher, A. K., Reviews by, 34, 67, 102, 168, 203; Note on "The Osprey," 169.
- Floyd, Charles B., A Christmas Bird Census, 15.
- Ford, R. W. See Bruen, Frank.
- Gannett, Lewis Stiles, A Christmas Bird Census, 16.
- Gates, Burton W., Swallow's Nest on Board Boat, 198.
- Glover, Helen W., Secretary, Report of, 40.
- Griswold, Merrill. See Comey, Arthur C.
- Hales, Henry, Mortality among Birds in June, 164.
- Harman, W. G., A Christmas Bird Census, 20.
- Head, Anna, A Christmas Bird Census, 20; Nesting of the Ruby-crowned Kinglet, 52; Nesting Habits of Two Flycatchers at Lake Tahoe, 153.

- Hix, George E., Red Crossbills in New Jersey in July, 166.
- Horton, Mrs. William C., Mortality Among Birds in June, 164.
- Hunt, Chreswell J., A Christmas Bird Census, 18.
- Jackson, Thomas, A Family of Barn Owls, 47; The Turkey Vulture and its Young, 184.
- Jackson, Thomas, Sharpless, Robert, and Esinger, C. E., A Christmas Bird Census, 17.
- Jacobs, J. Warren, Mortality Among Birds in June, 164.
- Jones, Lynds, A Christmas Bird Census, 19.
- Keeler, Charles, In the Haunts of New Zealand Birds, 114.
- Lee, Charlotte E., A Christmas Bird Census, 16.
- Lord, William R., Mortality Among Birds in June, 164.
- MacSwain, John, A Christmas Bird Census, 14.
- Manross, Newton. See Bruen, Frank.
- Maxon, William R., An Odd Nest-site of the Chimney Swift, 133.
- McConnell, Harry B., A Christmas Bird Census, 19.
- Mead, E. M., The Return of the Nuthatch, 12.
- Miller, Richard F., A Christmas Bird Census, 17.
- Miller, W. DeW., The Palm Warbler in New Jersey, 199.
- Murray-Aaron, Eugene, System in Field Records, 125.
- Newell, Ida, A Christmas Bird Census, 19.
- Norris, W. M., Jr., A Christmas Bird Census, 17.
- Packard, W. H., and Vandeusen, C. S., A Christmas Bird Census, 19.
- Palmer, T. S., Reviews by, 33, 67, 135, 168, 203; Bird Protection Abroad, 37, 105, 173.
- Patten, Jeanie Maury, Secretary, Report of, 207.
- Parker, W. P., A Christmas Bird Census, 14.
- Potts, F. A., A Christmas Bird Census, 20.
- Purdum, C. C., A Christmas Bird Census, 15.
- Reed, Roy T., A Christmas Bird Census, 18.
- Robins, Julia Stockton, Secretary, Report of, 73.
- Rogers, Charles H., A Christmas Bird Census, 16.
- Rowley, John, Photographs by, 46.
- Saunders, A. A., A Christmas Bird Census, 16.
- Seebolds, J. E., Photograph by, 54.
- Seeman, Ernest, A Christmas Bird Census, 18.
- Selleck, George H., and Cram, William Everett, A Christmas Bird Census, 14.
- Serverson, Henry P., A Christmas Bird Census, 20.
- Sharpless, Robert. See Jackson, Thomas.
- Smith, Theodore Clark, A Hermit Thrush Song, 84.
- Smith, Wilbur F., The Carolina Wren at South Norwalk, Connecticut, 163.
- Spalding, F. P., A Christmas Bird Census, 14.
- Stafford, Earle, The Brown Creeper, 203.
- Stone, C. F., A Large Phoebe's Nest, 200.
- Stupp, Fred J., A Christmas Bird Census, 16.
- Thayer, Abbott M., Mounted Birds in Illustration, 28.
- Thayer, Gerald H., The Mystery of the Black-billed Cuckoo, 143.
- Thompson, Dr. Joseph, The Tortugas Tern Colony, 77.
- Thomson, Harriet W., A Christmas Bird Census, 19.
- Trafton, Gilbert H., A Christmas Bird Census, 14.
- Turner, Howard M., and Eustis, Richard S., A Christmas Bird Census, 15.
- Vandeusen, C. S. See Packard, W. H.
- Van Note, George H., The Heath Hen in New Jersey, 50.
- Watson, Bertha B., A Piazza Bird List, 200.
- Webb, Roscoe J., Nest-Building Habits of the Chickadee, 63.
- Webster, Laurence J., Making Bird Friends, 9; Snowflakes in Trees, 64.
- West, Randolph. See Fine, Jack.
- Wetmore, Alick, A Christmas Bird Census, 20.
- Wilson, Burtis H., A Christmas Bird Census, 19.
- Wilson, R. N., Treasurer, Report of, 38.
- Woodward, Magnolia, A Christmas Bird Census, 18.
- Wright, Horace W., A Christmas Bird Census, 14.
- Wright, Jane Atherton, The Loggerhead Shrike in Massachusetts, 122.
- Wright, Mabel Osgood, Editorials by, 36, 70, 104, 137, 171, 205.

INDEX TO CONTENTS

- Advisory Council, 21.
 'A Hermit's Wild Friend,' reviewed, 201.
 Albatross, 121.
 American Ornithologists' Union, Twenty-first Congress of, 200.
Anous stolidus, 78.
 Anti-Sparrow Food Shelf, 30.
 Apteryx, 118.
 Archæopteryx, 93.
 Attracting Birds, 30.
 Audubon Societies, Reports of (see under Secretaries, Authors' Index).
 Conference of, 208.
 Auk, The, reviewed, 66, 101, 167, 202.
 Australia, 105.
 Bagg, Egbert, portrait of, 24.
 Bailey's 'Handbook of Birds of the Western United States,' Second Edition of, 204.
 Barbour, E. H., portrait of, 62.
 Barrows, W. B., portrait of, 61.
 Bell-bird, 114.
 Bergtold, W. H., portrait of, 195.
 Bignell's 'My Woodland Intimates,' reviewed, 101.
 Bird Charts, 70.
 Birds, Courtship of, 129.
 Economic Value of, 166.
 European, in America, 164.
 Jack, 120.
 Laws, 205.
 Lectures, 70.
 Man-o'-war, figured, 82.
 Mortality among, 164.
 Moulting of, 156.
 Plumages of, 156.
 Protection, 36, 37, 105, 137, 173.
 Psychology of, 127.
 Blackbird, European, 116.
 Red-winged, 26; nest figured, 92; 127, 146, 147, 156.
 Yellow-headed, 146, 147.
 Blatchley's 'A Nature Wooing at Osmond-by-the-Sea,' reviewed, 66.
 Blind, 94.
 Bluebird, 25, 26, 30; figured, 42.
 Arctic, 52.
 Bonhote's 'Field Notes on some Bahama Birds,' reviewed, 65.
 Book Exchange, A, 194.
 Brewster, William, portrait of, 195.
 Broods of Young, Number of, 27.
 Brown, Herbert, portrait of, 97.
 Bullbat, 174.
 Bulletin of the Michigan Ornithological Club, reviewed, 135.
 Bullfinch, 127.
 Bunting, Indigo, 87.
 Bush-wren, 117.
 Butler, A. W., portrait of, 97.
 California, 20, 46, 52, 64, 153, 173.
 Cardinal, figured, 197.
 Cassinia, reviewed, 167.
 Catbird, nest figured, 88.
Catheturus lathamii, 3.
 Cedarbird, 25, 26.
 Chaffinch, 163.
 Chamberlain, Montague, portrait of, 195.
 Chickadee, 9, 27, 63.
 Chicken, Sage, 166.
 Cobb's Island, 109.
 Condor, The, reviewed, 33, 67, 135, 168, 203.
 Connecticut, 15, 16, 40, 163.
 Cooke, W. W., portrait of, 62.
 Coot, figured, 46, 146; nest figured, 147; 148.
 Coues' 'Key to North American Birds,' note on, 34, 204.
 Courtship of birds, 129.
 Cowbird, figured, 193; 201.
 Cranes, 129.
 Creeper, Brown, 197.
 Crossbills, 156; feathers figured, 158.
 Red, 166.
 Crow, 63, 128, 201.
 Blue-wattled, 120.
 Orange-wattled, 120.
 Cuckoo, Black-billed, 143, 170.
 Long-tailed, 120.
 Shining, 120.
 District of Columbia, 133, 206.
 Dove, Mourning, 133.
 Ring, 128.
 Ducks, 129, 130.
 Duck, Canvasback, 146, 150.
 Mallard, 129, 146.
 Paradise, 119.
 Pintail, 146.
 Redhead, 146, 150.
 Ruddy, 146, 150.
 Dugmore, A. Radclyffe, 170.
 Dugmore's 'Nature and The Camera,' reviewed, 65.
 Eaton, Elon H., Portrait of, 97.
 Economic Value of Birds, 166.
 Eggs, 95.
 Elrod, M. J., portrait of, 62.
 Enemies of Nesting Birds, 57.
 European Birds in America, 163.
 Fannin, John, portrait of, 24.
 Fan-tail, Black, 115.
 Pied, 117.
 Finch, Purple, 156; feathers figured, 157, 160.
 Seaside, 109.
 Fish-hawks, 176; figured, 177, 179, 180, 181.

- Fisher, A. K., portrait of, 23.
 Fisher's 'Birds of Laysan' reviewed, 202.
 Fleming, J. H., portrait of, 161.
 Florida, 77.
 Flycatcher, Acadian, 89.
 Green-crested, 89.
 Great-crested, 90.
 Olive-sided, 153.
 Says, 199.
 Food of Young Birds, 26.
 Fowl, Mallee, figured, 2, 4, 5.
 Scrub, 3; nest figured, 8.
Fregata aquila, 83.
 Furnarius, 90.

 Galapagos, 183.
 Gardiner's Island, 175.
 Gnatcatcher, Blue-gray, 90.
 Godwit, Bar-tailed, 121.
 Marbled, 146.
 Goldfinch, 25.
 European, 116, 163.
 Goose, Canada, 130, 150.
 Grackle, Purple, 27.
 Grebe, Pied-billed, 128; nest figured, 148, 149.
 Greenfinch, 163.
 Grosbeak, Rose-breasted, 160.
 Pine, 199.
 Grouse, Sage, 166.
 Gulls, figured, 46.
 Gull, Herring, 93, 130.
 Laughing, 109; figured, 112, 113.
 Ring-billed, 146.

 Habit, Influence of, 58.
 Hawks, 130, 156.
 Hawk, Man-o'-war, figured, 82.
 Marsh, 148.
 Hen, Heath, 50; figured, 51.
 Herons, 130.
 Heron Green, 130.
 Great Blue, 130.
 Night, 89, 130, 179.
 Yellow-crowned, figured, 183.
 Huia, 120.
 Hummingbird, 90.
 Huntington's 'Our Feathered Game,' reviewed, 167.

 Illinois, 19.
 Incubation, 95.
 India, 36.
 Indiana, 18.

 Jacob's 'The Story of a Martin Colony,' reviewed, 31.
 Jay, Blue, 9.
 Jones, Marcus E., portrait of, 24.
 Junco, 9.

 Kakapo, 118.
 Keeler, Charles, portrait of, 62.
 Kentucky, 18.
 Killdeer, eggs figured, 91, 146.

 Kingbird, 30; figured, 155.
 Kingfisher, New Zealand, 120.
 Kinglet, Ruby-crowned, 52.
 Kiwi, 118.
 Knight, O. W., portrait of, 131.
 Knight's 'The Birds of Wyoming,' reviewed, 66.
 Knowlton, F. H., portrait of, 161.

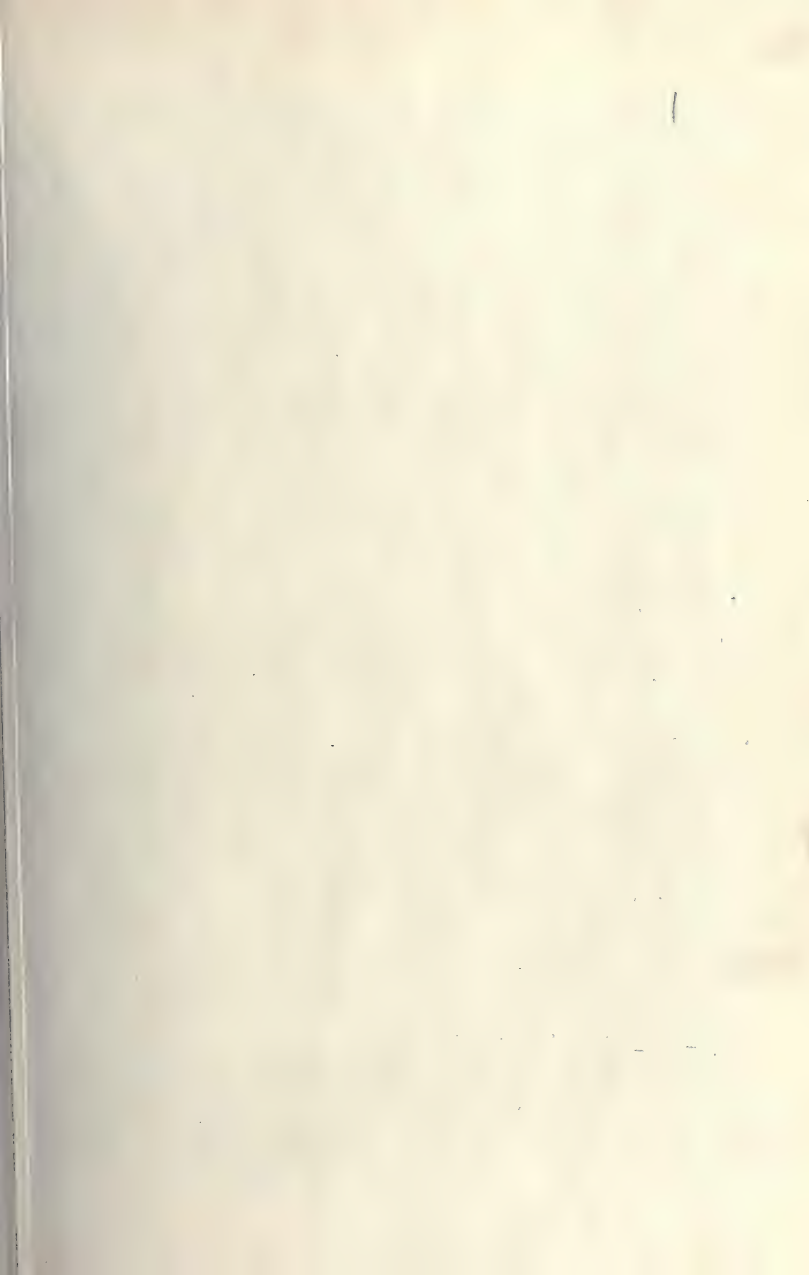
 Libby, O. G., portrait of, 61.
 Libraries, circulating, 70.
Lipoa ocellata, 3.
 Loon, 128.
 Louisiana, 74.

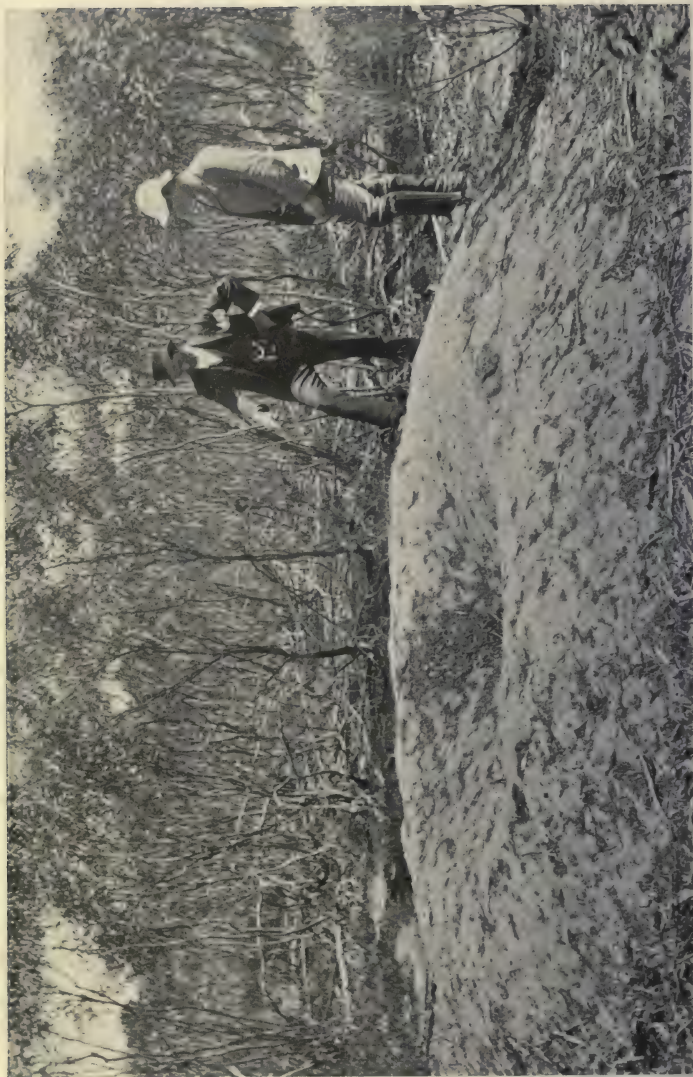
 Macoun's 'Catalogue of Canadian Birds,' reviewed, 167.
 Martin, Purple, 31; figured, 32; 164, 165.
 Massachusetts, 14, 15, 30, 63, 87, 122, 133, 151, 164.
 Mating, 56.
 McIlwraith, T., portrait of, 24; obituary notice of, 60.
 Meadowlark, 158; feathers figured, 160.
 Western, figured, 159, 160.
Megapodius duperreyi, 3.
 Michigan, 19.
 Michigan Ornithological Club, Bulletin of, reviewed, 135.
 Migration, 103.
 Millinery agreement, 104.
 Moa, 119.
 Mockingbird, 128.
 Galapagos, figured, 183.
 Molting, 156.
 Mortality among Birds, 164.
 Mounted Birds in Illustration, 28, 35.
 Murphy, Eugene, portrait of, 97.
 Museum exhibits, 136.
 Myiarchus, 90.

 Nebraska Ornithologists' Union, Proceedings of, reviewed, 134.
 Nehrting, H., portrait of, 61.
 Nest, The, 57, 58, 59, 89.
 Nesting Season, 25, 56.
 New Hampshire, 9, 14, 64, 143.
 New Jersey, 17, 50, 164, 166, 199, 200.
 New Mexico, 20, 99.
 New York, 16, 133, 163, 175, 198, 199.
 New Zealand, 114, 173.
 Nighthawk, 43; figured, 44; 174.
 Noddy, figured, 76, 78, 79, 80, 93.
 North Carolina, 18, 38.
 North Dakota, 143.
 Notes, Keeping, 125.
 Notornis, 121.
 Nuthatch, Red-breasted, 9; figured, 10, 11, 35.
 Nuthatch, White-breasted, 9, 12; figured, 13; 26, 35, 196.
 Nuttall's 'A Popular Handbook of the Birds of the United States and Canada,' reviewed, 101.

- Ohio, 19, 63.
 Oriole, Baltimore, 30, 89, 160.
 Osprey, figured, 55, 89.
 Osprey, The, reviewed, 34; note on, 169.
 Oven-birds, 90.
 Oystercatcher, 109.
 Owl, Barred, 25.
 Barn, 47; figured, 47, 48, 49.
 Saw-whet, figured, 29.
 Parakeet, Orange-fronted, 118.
 Parrots, 129.
 Parrot, Kaka, 118.
 Owl, 118.
 Parson-bird, 119.
 Peacock, 129.
 Pelican, Brown, 89.
 Pelican Island, 73.
 Pennsylvania, 17, 18, 47, 72, 165, 184.
 Petrel, 121.
 Pewee, Wood, 90.
 Western Wood, 154.
 Phalaropes, Wilson's, 146.
 Pheasants, 129, 178.
 Phebe, 95; nest of, figured, 198, 199.
 Pigeon, 127.
 Pigeon, Great Crowned, 128.
 Wild, figured, 209.
 Pigott's 'London Birds, and Other Sketches,'
 reviewed, 31.
Plectrophenax nivalis, 64.
 Plover, Bartram's, figured, 54.
 Eastern Golden, 121.
 Piping, 182.
 Wilson's, 109.
 Wry-billed, 121.
 Plumages, 156.
 Preble's 'A Biological Investigation of the
 Hudson Bay Region,' reviewed, 33.
 Prince Edward Island, 14.
 Psychology of Birds, 127.
 Quail, California Valley, 116.
 Questions for Bird Students, 187.
 Rail, Clapper, 109.
 Virginia, 146.
 Records, Field, 125.
 Redstart, American, figured, 189; Painted,
 figured, 191.
 Rejected manuscripts, 68.
 Rhode Island, 133, 139.
 Ridgway, Robert, portrait of, 23; 'Birds
 of North and Middle America,' Part
 II, reviewed, 31.
 Rives, Wm. C., portrait of, 131.
 Roberts, T. S., portrait of, 23.
 Robin, 26, 27, 30, 52, 89, 133, 177.
 Saddle-back, 120.
 Sage, John H., portrait of, 96.
 Saunders, W. E., portrait of, 131.
 Scott, W. E. D., 67.
 Scott's 'The Story of a Bird Lover,' re-
 viewed, 101.
 Seton, Ernest Thompson, portrait of, 195.
 Shoveller, 146.
 Shrike, Loggerhead, 122; figured, 123, 124.
 Sierra Nevada, 43, 52.
 Silver-eye, 116.
 Skimmer, Black, 109; figured, 110, 111.
 Skylark, 119.
 Snowflake, 64, 156.
 South Carolina, 18.
 Southwick, J. M., portrait of, 23.
 Sparrow, Chipping, 30.
 English, 27, 30, 128, 163.
 Grasshopper, 98.
 Savanna, figured, 132.
 Song, 27.
 Tree, 9.
 Starling, 116, 133, 163.
Sterna fuliginosa, 82.
Sterna antillarum, 83.
 Stone, Witmer, portrait of, 131.
 Strong's 'The Development of Color in the
 Definitive Feather,' reviewed, 65.
 Swallow, Bank, 151.
 Barn, 164, 199.
 Swallows, 198.
 Swan, Black, 119.
 Swift, Chimney, 133, 164.
 Tennessee, 18.
 Tern, Black, 146; nest figured, 149.
 Common, 109.
 Forsters, 109.
 Gull-billed, 109; figured, 112.
 Least, figured, 83, 109.
 Common, 182.
 Royal, 109.
 Sooty, eggs figured, 81, 82.
 Thayer, Abbott H., 35.
 Thrush, Hermit, 84.
 North Island, 119.
 Todd, W. Clyde, portrait of, 61.
 Tomtit, South Island, 116.
 Tortugas, 77.
 Tui, 119.
 Turkey, Brush, 3; nest figured, 7.
 Verdin, 90.
 Vermont, 14, 39, 165, 207.
 Virginia, 109.
 Vulture, Turkey, 184; figured, 185, 186,
 187.
 Warbler, Black and White, 165.
 Blackburnian, figured, 60, 191.
 Gray, 114, 115.
 Kirtland's, 169.
 Mourning, figured, 162.
 Palm, 199.
 Parula, 178.
 Prothonotary, figured, 192.
 Yellow, 201.
 Weed, C. M., portrait of, 96.
 Weed's 'A Partial Bibliography of the
 Economic Relations of North American
 Birds,' reviewed, 65.

- Weed and Dearborn's 'Birds in Their
Relation to Man,' reviewed, 134.
Weka, 118.
White-head, 118.
Widmann, Otto, portrait of, 161.
Willet, 109.
Williams, R. W., portrait of, 161.
Wilson Bulletin, The, reviewed, 67, 102,
168, 203.
Wisconsin, 20.
Woodcock, 26.
Wood-hen, 118.
Woodpecker, California, figured, 142.
Downy, 9, 26.
Wren, Carolina, 163, 178. "
Long-billed Marsh, 90.
Wyoming, 166.
Yellow-head, 117.
Young Birds, 26, 92, 95.





Bird = Lore

A BI-MONTHLY MAGAZINE
DEVOTED TO THE STUDY AND PROTECTION OF BIRDS

OFFICIAL ORGAN OF THE AUDUBON SOCIETIES

Vol. V

JANUARY — FEBRUARY, 1903

No. 1

The Mound-Building Birds of Australia

BY A. J. CAMPBELL, Melbourne

Author of "Nests and Eggs of Australian Birds"

With photographs from nature

ENCOURAGED by the appreciation of my article on 'The Bower Birds of Australia,' which appeared in BIRD-LORE for October, 1900, I have ventured to give a sketch of our mound-building birds.

The mound-building birds are ornithological curiosities, not only of Australia, but of the world. There are three kinds, namely, the Mallee Fowl (*Lipoa ocellata*), the Brush Turkey (*Catheturus lathamii*), and the Scrub Fowl (*Megapodius duperreyi*).

The Mallee Fowl, a remarkable and truly solitary creature, dwells in the drier and more arid scrubs of parts of the southern half of Australia, being partial to the mallee (a species of dwarf eucalypt) timber tracts; hence the common name 'Mallee' Hen or Fowl. This bird resembles very much in size and shape a grayish mottled domestic Turkey, but it is smaller, more compact, and stouter in the legs. It has no wattle about its head, but there is a tuft of dark feathers falling back gracefully from the crown. On account of this tuft some of the western native tribes call the bird 'Ngow-oo,' 'Ngnoweer,' meaning a tuft of feathers. Some of the eastern tribes called the bird 'Louan' or 'Low-an-ee.'

The most striking feature in the economy of the Mallee Fowl is that it does not incubate its eggs in the usual manner of birds, but deposits them in a large mound of sand, where they are hatched by the sun's rays together with the heat engendered by decomposing vegetation placed underneath the sand and eggs. In constructing a new nest or mound, the bird selects a slight hollow,—invariably a shallow water-track in almost impenetrable scrub or bush. The spot is hollowed or scooped out and filled with dead leaves or other vegetable matter. Then all is completely enveloped with sand, which is scraped up for several yards around;

the birds using their strong feet for scraping, and their breast and wings for impelling the sand forward. The dimensions of an ordinary mound (which is usually more or less cone-shaped) by actual tape measurement, which I took on the spot, were ten feet in diameter at base by about two feet in height. There appeared to be about one hundred and fifty cubic feet of sand and rubbish. Notwithstanding the large dimensions of the mound, the portion of the center containing the eggs was only about fifteen inches in diameter. Only a pair of birds own a mound, which they commence to build (or to reconstruct an old one) about



MALLEE FOWL (*Lipoa*). After Gould

June or July, although the female does not lay until September or October. No doubt the mound is so prepared early to receive the winter and spring rains; the water collecting in the shallow course, and consequently running through and underneath the leaves, it is left open for that purpose (see illustration). An inch or two of dry, loose sand covers the leaves. Then comes a tier or layer of four eggs (Gould states eight), each being placed perpendicularly on its small end. The four eggs are placed four or five inches apart, forming a square. More sand covers them and another tier of eggs is placed opposite the interstices of the underneath tier, and so on, till a complement of twelve or even sixteen is sometimes reached. But it should be remembered that the mound is completely built up after it has received the necessary rain or moisture, and is opened every time the female lays; consequently a great amount of toil devolves

upon her and her mate in dismantling and rebuilding the mound on each occasion of laying. A dweller in the Mallee country, who has enjoyed exceptional experiences with Mallee Fowls' mounds, informs me there are always four eggs in the bottom tier, but sometimes six in the other tiers, except the topmost, which finishes with one egg only; the number of tiers being usually three, occasionally four.

During laying time, an egg is deposited every third day between 9 and 10 o'clock in the morning, or perhaps two eggs a week. A mound containing eggs is somewhat cone-shaped in dull or wet weather, but in warm



EGG-MOUND OF THE MALLEE FOWL

From a photograph by Dr. C. S. Ryan

and sunny days the top is hollowed out (usually about 10 o'clock A. M.), like a miniature extinct volcano, though not exposing the eggs. This enables the heat from the sun to penetrate about the eggs; therefore when the mound is filled in again (usually about 3 o'clock P. M.), the heat so absorbed is retained for a lengthened period. I once took the temperature of a mound near the eggs which registered ninety-three degrees. The egg is abnormally large compared with the size of its parents, and measures about three and five-tenths by two and three-tenths inches, weighing about six and one-half ounces. The shell is thin, elliptical in shape, and exteriorly of a beautiful soft pinkish red. As incubation proceeds, the eggs become stained, and a thin epidermis chips off. In two instances the term of incubation was (as nearly as could be ascertained in the bush) thirty-eight and forty-one days, respectively. From the position (large ends

upward) of the eggs within the mound, the chicks are hatched in an upright attitude, with their legs drawn up in front and toes near their beak; therefore it would be easy for the young, when delivered in due time from the shell, to wriggle through the loose sand and so free themselves from their great earthen incubator. In accordance with the natural law — the greater the size of the egg in comparison with the size of the parent, the more precocious the young — the young Mallee Fowl can fly at its birth, and thereafter probably leads an independent existence of its own.

It may be added that the call of the Mallee Fowl is a mournful, prolonged, coo-like note, which may be heard nearly a mile away. Being terrestrial in habit, its food consists chiefly of insects, seeds and berries, and tender shoots of plants. It can subsist without water, but sometimes drinks when it rains.

The Brush Turkey or Wattled Talegallus (*Catheturus lathami*) is another extraordinary mound-raising bird, and is a denizen of the dense coastal scrubs of eastern Australia. This bird is slightly larger than the Mallee Fowl, and is blackish brown in color, as are also the bill, eyes and feet. The skin of the head is pinkish and thinly dotted with short, hair-like feathers, while the neck is ornamented with yellow and red wattle.

During the season of 1891, within the shades of the luxuriant sub-tropical scrub of the Richmond river district, I was fortunate in finding an egg-mound (see illustration) which contained eight eggs embedded at a temperature of ninety-four degrees, or four degrees higher than the prevailing atmosphere at the time. The mound, rotund in form, was twelve feet in diameter at the base by two and one-half feet in height, and was composed chiefly of black earthy mould mixed with decaying vegetable matter. It is stated that the male birds generally perform the work of mound-building, the debris being scraped up or gathered in the claws and thrown backwards. One to three mated pairs frequent one mound. The females lay about twelve eggs each, which are placed, small ends downward, a few inches apart, in circular tiers at the depth of about an arm's length. The eggs are more or less elliptical in shape, slightly rough, without glossiness, and are pure white if not stained with the dirt of the mound. They are about the same size as those of the Mallee Fowl.

Concerning Brush Turkeys in captivity, the Messrs. Le Souëf Brothers, of the Melbourne Zoölogical Gardens, inform me that the young grow quickly, and at the age of nine months are hardly distinguishable from their parents. The birds keep well in confinement, but, being of a pugnacious nature, the males have to be separated when the breeding season arrives. A female was once watched depositing her egg. She first scratched a hole ten inches deep near the top of the mound and entered

to lay, her head and neck only being visible above ground. All the time she was occupied in the mound, the male persecuted her, apparently endeavoring to drive her away. As soon as the egg was laid, the male at once scraped a few leaves, etc., into the hole, and, getting in, trampled them well down around the egg, which he fixed in a perpendicular posi-



EGG-MOUND OF THE BRUSH TURKEY (*Cathartus*)

From a photograph, by A. J. Campbell

tion. The operation of scraping in debris was repeated several times, until the hole was filled.

The Scrub Fowl, or Megapode (*Megapodius duperreyi*), as a mound-builder (especially in the matter of great dimensions) is even a more extraordinary bird than either the Mallee Fowl or the Brush Turkey. The Megapode, which resembles a dun-colored domestic fowl with big feet, is restricted to the dense thickets of the northern coast of Australia, while its *extra*-Australian habitat extends to New Guinea and many Austro-Malayan islands.

On the opposite side of the creek to my North Queensland camps, Megapodes, on going to roost at evening, kept the scrub alive with their loud, chuckling calls, which were sometimes continued far into the night, especially if it was moonlight. In the thick labyrinth of undergrowth on the adjacent Barnard Islands, I came across many Scrub Fowls' mounds, each resembling so many cart-loads of sandy soil thrown together, and mixed with rotten vegetation. They were cone-shaped and of medium

size, being about four or five feet high; but laying had not commenced. While waiting in ambush for Rifle Birds (Birds of Paradise), Scrub Fowls would frequently pass close by me, running over the ground through the scrub. The Scrub Fowl, although the smallest of the three mound-building birds, raises by far the largest mound. The largest, according to the dimensions (maximum diameter fifty feet, height fifteen feet) furnished by Gilbert and Macgillivray, must have contained nearly nine thousand cubic feet of matter. Into these immense heaps the Scrub Hen appears to burrow for from six to sixty inches, according to circumstances, to deposit her egg—not like the Mallee Hen and the female Scrub Turkey, which open up their mounds for that purpose.

The beautiful buff-tinted eggs most resemble those of the Mallee Fowl, but are slightly smaller, the shell being extremely thin and fragile. It is said that only one pair of birds frequent the same mound (a point by no means settled), and that the complement of eggs to a clutch is eight or ten. The temperature of Megapode mounds has been registered at ninety-four or ninety-five degrees, or about the same as that recorded for the other species of egg-mounds.



EGG-MOUND OF THE SCRUB FOWL (*Megapodius*)

From a photograph, by D. Le Souëf

Making Bird Friends

BY LAURENCE J. WEBSTER, Holderness, N. H.

With photographs from nature by the author

HAVING become much interested in the feathered residents of our farm, my wife and I determined to add to their winter rations, and early in the season established a feeding place for them. We selected a protected location at the edge of a pine wood, where we fastened pieces of suet to numerous trees, and in a large box, placed on its side on the ground, we put straw, hay siftings and several kinds of seed. It was not long before the Chickadees and Red-breasted Nuthatches discovered the food and began to come regularly. Blue Jays and squirrels also found it and we were obliged to tack fine poultry wire over the suet to prevent them from taking whole pieces as fast as we put them up. Later we had Juncos, Tree Sparrows, White-breasted Nuthatches and Downy Woodpeckers.

About a month the Chickadees and Red-breasted Nuthatches became so accustomed to us that we could approach within a few feet of them without their exhibiting any fear. It then occurred to us that we might tame them so that they would eat from our hands. As a beginning, we fastened a small box-cover to a limb of one of the trees where suet was kept, and filled it with chopped nuts. In a day or two the inquisitive Chickadees mustered sufficient courage to investigate this, and found the nuts much to their liking. The Nuthatches, however, did not seem to care for them and seldom visited the box. After the Chickadees had become well accustomed to going to the box, we succeeded, by very gradual stages, in getting them to light on it while held in the hand. Finally we discarded the box and held the chopped nuts in our hands, and they soon came to alight on our fingers as readily as on the box.

During all this time the Red-breasted Nuthatches were very much in evidence, but we did not succeed in getting them interested in the chopped nuts and therefore tried them with whole beechnuts. At first we wedged them into the crevices in the bark near the suet, so that they might become accustomed to finding nuts at that particular place. They found them very promptly, and those they could not eat at the time they would carry off and hide. We then tried holding two or three beechnuts in the hand directly under the place where they had been used to finding them, and, after patient waiting, we were rewarded by having a Nuthatch come to the spot. He investigated the new conditions thoroughly, then reached down and took a nut, which he immediately flew off with, but after a short time returned for another. This time the hand was held further from the tree, and he was obliged to put one foot on it in order to reach the nut. Then it was held five or six inches off, but he was equal to

the occasion and flew to the hand. After working off gradually to some distance, we moved fifteen or twenty feet. When this move was made he seemed much puzzled, but soon saw the familiar hand and flew first to a near-by branch and then directly to it. This process was repeated several times, until five birds were tamed.

On one occasion, a Nuthatch took a nut, but dropped it when alighting on a branch. Instead of flying down and getting it, he stood flapping his wings slightly while I stooped down, picked it up and handed it to him.



ON THE LOOKOUT

When the Nuthatches had become well used to taking beechnuts from our hands we tried holding a nut between the thumb and forefinger, to see if they would stay and eat it. At first they would hammer away on either side, trying to loosen it; but, if we held on tightly, would finally pound at the nut and soon break off enough of the shell to get the meat. Later they were perfectly content to stay on our hands

and eat for several minutes at a time, and would light on our caps, our shoulders, or any part of our person almost as readily as on a branch. If one happened to catch us without a nut he would look all around between our fingers, under our hands, into the openings in our gloves and up our sleeves in search of one. Once or twice, when I had no glove on, one has mistaken my finger for suet, and has pounded it until he nearly drew blood.

Later the Red-breasted Nuthatches and Chickadees came to us in different parts of the woods, frequently a quarter, and occasionally half a mile from the original feeding-ground, and they would sometimes follow us for a considerable distance. They came to us, if within hearing, when we whistled the Chickadee's *pha-be* note, and we have had them

alight on our hands when we were on horseback; and once one of the Chickadees ate from our hands while we were in a canoe near the shore of the lake.

When we began to photograph them, we found that it took quite as much patience as taming them. The accompanying photographs were taken with a tripod camera with the lens a little less than three feet from the bird. In the first, I focused on the knothole in which we had placed suet, and then waited for a Nuthatch to come. The camera being so near, however, the click of the diaphragm shutter startled him,



A BIRD FRIEND

and he would move quickly enough to make a good picture impossible. I, consequently, had to make a business of clicking the shutter without exposing plates until he became used to the sound. This required time, and, it is needless to say, I spoiled more than one plate trying for pictures before I succeeded in getting a satisfactory one. I finally used an extra shutter for the "clicking," which enabled me to take the picture immediately after getting the bird used to the sound.

On March 27 we discovered one pair of our Nuthatches excavating a hole in a dead upright branch of a large sugar maple, some thirty or forty feet from the ground. As near as we could tell, the female did all the work, and she was a very busy bird until the nest was completed,—first carrying out chips and then carrying in the nesting material.

In making the excavation, she would carry off some of the chips and apparently hide them as she would a nut, others she would carry away and drop, and still others (generally the smaller ones) she would drop from the entrance to the hole.

During the whole nesting time the male was particularly tame, and would come to us whenever we were in the vicinity of the nest, follow us, alight on our hands and eat while we were walking. One day, after feeding from our hands for a short time, he flew to a small pool only a few feet away and took a bath; then, without waiting to dry his feathers, returned to finish his meal.

We were unable to take time to watch the nest carefully enough to obtain exact data, but on May 4 we saw both birds carrying food to the nest, and on May 12 saw the young peeping out of the hole. A few days after this we saw the whole family at the old feeding-ground, and they remained in our woods all summer, being about the only Red-breasted Nuthatches observed during that season.

The Return of the Nuthatch

BY E. M. MEAD

With photographs from nature by B. S. Bowdish

READERS of BIRD-LORE may remember the photograph from nature of the White-breasted Nuthatch published in this magazine for December, 1901, which shows the bird on my hand with a nut she had just taken. In April of that year she disappeared, presumably for nesting, from Central Park, New York city, where I had tamed and fed her. The following winter I watched closely and inquired frequently of the many bird-lovers in the park if White-breasted Nuthatches had been seen, but none were reported, so I sorrowfully concluded that some misfortune had befallen my bird friend.

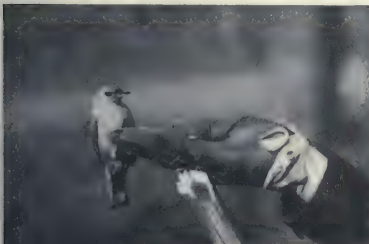
On my return to the park in October, 1902, about a mile north of the place where I fed and tamed the Nuthatch in 1900, I saw at various times two or three White-breasted Nuthatches, and others were reported. Then I placed, each day, bits of nut and suet in the crevices of the bark of trees, hoping my bird would be attracted, if, returning, she should chance to pass that way. My patience has been well rewarded, for the bird has apparently returned, but without her mate, and still enjoys as much—even more, perhaps—alighting on my hand and helping herself to the nuts she finds there. So fearless is she that she will take food from my lips, shoulder or lap. Even an open umbrella over my head has no terrors for her. Although she manifested some annoyance at the ap-

pearance of the camera within two feet of us for more than an hour, during which time twelve exposures were made, still she repeated all her little tricks, not only once, but several times. The series of pictures is quite characteristic of her manner of alighting and clinging to the fingers, thence making her way into my hand, very rarely flying directly into it. Owing to her limited powers of steering, due, I suppose, to the shortness of her tail-feath-

ers, she seems to find it necessary to assume a particular pose on a tree trunk before essaying flight to the hand. As formerly, she flies away with what she cannot, or

does not want to, eat at once, and hides it in the trees for future use, coming quickly back for more.

I feel sure it is the same bird, because the first day of her reappearance I was attracted by her evident desire to draw my attention to herself. As I was at the time in the company of several small boys, to whose presence she always rather objected, I did not attempt to call her to me; but the next day, at the same place, being alone, I held out my hand, and she immediately, without hesitation, flew to it for the nuts therein, and stayed with me until I was obliged to leave her. I have never seen her fly to anybody else, and all who have seen her with me have been thoroughly convinced that she recognized me.



WHITE-BREADED NUTHATCH. SHOWING CHARACTERISTIC POSES ASSUMED WHEN ALIGHTING

The Christmas Bird Census

BIRD-LORE'S third annual Christmas Bird Census has aroused more than usual interest. Nearly twice as many reports as were sent last year have been received, and the area covered reaches from Prince Edward Island to South Carolina, and west to California. In most instances, the number of birds observed would astonish those people who believe that our woods and fields are deserted by birds in the winter. The abundance of the seed-eaters is especially noticeable, and, in view of the facts which lately have been determined concerning their food habits, emphasizes their great economic value.

All the reports are interesting, from the one which contains no birds to that listing nearly forty species, and some of them have records of more than usual value.

Charlottetown, P. E. I.—Time, 3 hours. Fine; wind, east, light; temp., 28°. Not a single bird seen. The early and severe winter weather of the beginning of December seems to have driven all birds to the South.—JOHN MACSWAIN.

Exeter, N. H.—Time, 7.15 A. M. to 12.55 P. M. Cloudy, a little snow; wind northerly, moderate; temp., 20°. Ruffed Grouse, 1; American Hawk Owl, 1 (allowed an approach to within eight or ten feet, and was started from thirteen perches); Downy Woodpecker, 2; Crow, 14; Blue Jay, 1; Snowflake, 2; Goldfinch and Pine Siskin (two flocks), 80; Tree Sparrow, 9; Golden-crowned Kinglet, 2; Chickadee, 45; White-breasted Nuthatch, 2; Brown Creeper, 2.—GEORGE H. SELLECK and WILLIAM EVERETT CRAM.

Randolph Center, Vt.—Time, 10 A. M. to 4 P. M. Cloudy, ground covered with snow and wind northwest, very light; temp., 17°. Shrike, 1; White-breasted Nuthatch, 2; Chickadee, 1. Total, 3 species, 4 individuals. The number of birds seen was very small, but it gives a fair indication of the winter bird-life here. I pass many days without seeing or hearing a single bird.—GILBERT H. TRAFTON.

Lowell, Mass.—Time, 8 A. M. Cloudy, snow on the ground; wind easterly, light; temp., 25°. Robin, 1. Same, 12 M. to 1.30 P. M. Snowing; wind easterly, light; temp., 25°. Crow, 2; Tree Sparrow, 5; Chickadee, 1. Total, 4 species, 9 individuals.—F. P. SPALDING.

Duxbury, Mass.—December 29, 1902, 8.30 to 4.30. Clear A. M., cloudy P. M.; two inches of snow on ground; wind southwest, fresh; temp., 24°. Herring Gull, 185; Black Duck, 94; American Golden-eye, 104; Downy Woodpecker, 1; Flicker, 26; Shore Lark, 32; Blue Jay, 16; Crow, 37; Meadow-lark, 27; Goldfinch, 79; Snowflake, 2; Tree Sparrow, 15; Junco, 36; Song Sparrow, 4; Swamp Sparrow, 1; Myrtle Warbler, 109; Mockingbird, 1 (has been several times observed since October 6); Chickadee, 38; Golden-crowned Kinglet, 2. Total, 19 species, 809 individuals.—GUY EMERSON, Brookline, Mass.

Worcester, Mass.—Time, 10.45 A. M. to 12.15 P. M. Dull, snowing; ground partly covered with snow at the beginning; wind east, slightly north, moderately strong; temp., 22°. Downy Woodpecker, 1; Blue Jay, 2; Crow, 4; Goldfinch, 7; Chickadee, 2. Total, 5 species, 16 individuals.—W. P. PARKER.

Boston, Mass. (Charles River, the Black Bay Fens and Riverway, Olmstead Park, Jamaica Park, and the Arnold Arboretum, being six miles of the city park system).—December 24, 9.30 to 3.30. Clear; ground bare, except remains of snowdrifts; wind

northwest, light; temp., 20°. Herring Gull, 35; Black Duck, 23; American Golden-eye, 101 (three on Jamaica Pond); Sparrow Hawk, 1; Downy Woodpecker, 2; Flicker, 15; Blue Jay, 6; Crow, 28; Purple Finch, 7; Goldfinch, 3; White-throated Sparrow, 9 (one in song); Tree Sparrow, 4; Junco, 3; Song Sparrow, 6; Cedar Waxwing, 9; Northern Shrike, 1; Myrtle Warbler, 2; Brown Creeper, 2; Chickadee, 19; Golden-crowned Kinglet, 5. Total, 20 species, 281 individuals.—HORACE W. WRIGHT.

Cambridge, Belmont and Arlington, Mass.—December 26, 1902, 9.30 A. M. to 4.30 P. M. Cloudy, about ten inches of snow on the ground; wind very light, westerly; temp., 32°. Sparrow Hawk, 1; Flicker, 3; Blue Jay, 2; Crow, 7; Red-winged Blackbird, 1; Meadow-lark, 6; Goldfinch, 3; Tree Sparrow, 30; Song Sparrow, 3; Chickadee, 12; Golden-crowned Kinglet, 16. Total, 11 species, 84 individuals.—HOWARD M. TURNER and RICHARD S. EUSTIS.

Brookline, Mass.—December 23, 1902, 6.30 A. M. to 11.45 A. M. Clear; no wind, very spring-like; temp., 36°. Herring Gull, 20; Black Duck, 5; American Golden-eye, 11; Sparrow Hawk, 1; Downy Woodpecker, 1; Flicker, 7; Jay, 6; Crow, 17; Goldfinch, 24; Junco, 15; Chickadee, 14; Brown Creeper, 7; Nuthatch, 2. Total, 12 species, 129 individuals.—CHARLES B. FLOYD.

Cambridge, Mass.—December 26, 8.30 to 2.30. Calm, cloudy, about eight inches of snow on the ground; temp., ranged from 27° to 32°. Sparrow Hawk, 1; Downy Woodpecker, 5; Flicker, 3; Crow, 10; Blue Jay, 5; Meadowlark, 1; Goldfinch, 31; Tree Sparrow, 20; Song Sparrow, 2; Brown Creeper, 3; White-breasted Nuthatch, 1; Chickadee, 10; Golden-crowned Kinglet, 10. Total, 13 species, 102 individuals.—ARTHUR C. COMEY and MERRILL GRISWOLD.

Nahant Beach, Mass.—December 27, 9.45 to 4.00. Clear; wind, light, southwest; about two inches of snow on the ground; temp., 25° and 34°. Holboell's Grebe, 1; Horned Grebe, 5; Herring Gull, 400; Black-backed Gull, 15; Black Guillemot, 1; Red-breasted Merganser, 6; Old Squaw, 40; Golden-eye, 30; White-winged Scoter, 4; Crow, 25; Horned Lark, 23; Snow Bunting, 2; Northern Shrike, 1. Total, 13 species, 553 individuals.—ARTHUR C. COMEY and EDWARD M. DAVIS.

Woods Holl, Mass.—Time, 7 A. M. to 12 M. Cloudy, snowing; ground bare, later snow-covered; wind, northeast, light; temp., 29°. Horned Grebe, 12; Pied-billed Grebe, 4; Loon, 8; Black Guillemot, 2; Razor-billed Auk, 2; Dovekie, 1; Herring Gull, 35; Bonaparte Gull, 2; Cormorant, 1; Red-breasted Merganser, 20; Mallard, 1; Black Duck, 30; Old Squaw, 75; American Eider, 5; Velvet Scoter, 2; White-winged Scoter, 500; Surf Scoter, 25; Ruddy Duck, 1; Brant, 12; Bob-white, 10; Ruffed Grouse, 2; Screech Owl, 1; Belted Kingfisher, 1; Downy Woodpecker, 4; Flicker, 3; Blue Jay, 6; American Crow, 30; American Goldfinch, 20; Snowflake, 5; Slate-colored Junco, 50; Song Sparrow, 8; Swamp Sparrow, 1; Northern Shrike, 1; Brown Creeper, 10; White-breasted Nuthatch, 6; Chickadee, 40; Golden-crowned Kinglet, 6; American Robin, 2. Total, 38 species, 957 individuals.—C. C. PURDUM, M. D.

Assonet, Mass.—Time, 8 A. M. to 2.30 P. M. Wind, northeast, light, increased about 10.30 A. M., when snow started to fall; heavy snowfall; temp., 26°. Herring Gull, 1; Black Duck, about 50; Bob-white, 7; Ruffed Grouse, 2; Downy Woodpecker, 1; Flicker, 9; Horned Lark, about 30; Crow, about 200; Blue Jay, 5; Tree Sparrow, 3; Myrtle Warbler, 11; Golden-crowned Kinglet, 1; Chickadee, 73; Red-breasted Nuthatch, 2. Total, 14 species, 395 individuals.—JOHN DENWOOD.

Bristol, Conn.—Time, 6.45 A. M. to 2.15 P. M. Snowing; wind, northeast, light; ground snow-covered; temp., 23°. Bob-white, 6; Marsh Hawk, 2; Downy Woodpecker, 5; Blue Jay, 31; American Crow, 64; American Goldfinch, 29; Tree Sparrow, 1; Junco, 1; Song Sparrow, 1; Northern Shrike, 1; Winter Wren, 1; Brown Creeper, 2; White-breasted Nuthatch, 7; Red-breasted Nuthatch, 1; Chickadee, 43; Golden-crowned

Kinglet, 7; Bluebird, 2. Total, 17 species, 204 individuals.—FRANK BRUEN, R. W. FORD, and NEWTON MANROSS.

Edgewood Park and Edgewood, New Haven, Conn.—December 26, 1902, 10.15 A. M. to 12.15 P. M. Snowing, ground snow-covered; wind, northeast, light to medium; temp., 27°. Bob-white, 2; Downy Woodpecker, 2; Flicker, 3; Crow, 7; Goldfinch, 2; Song Sparrow, 4; Brown Creeper, 3; White-breasted Nuthatch, 1; Chickadee, 24. Total, 9 species, 48 individuals. Since December 15, Bluebirds have been either seen or heard nearly every morning.—A. A. SAUNDERS.

Rochester, N. Y.—Time, 11.30 A. M. to 1.30. Cloudy, almost no wind; temp., 18°. Downy Woodpecker, 1; Crow, 3; Goldfinch, 3; Junco, 2; Tree Sparrow, 1; Brown Creeper, 1; White-breasted Nuthatch, 1; Chickadee, 3; Robin, 1. Total, 9 species, 17 individuals.—LEWIS STILES GANNETT.

Auburn, N. Y.—Time, 8.40 A. M. to 2.30 P. M. Snowing heavily during preceding night and all Christmas day; wind, light, southerly, changing to strong northwest about noon; temp., 23°. Horned Grebe, 21; Herring Gull, 10; Ring-billed Gull, 1; American Merganser, 2; Red-head Duck, 19; American Golden-eye Duck, 17; Buffle-head Duck, 2; Ruffed Grouse, 1; Hairy Woodpecker, 2; Downy Woodpecker, 1; American Crow, 300; American Goldfinch, 1; Song Sparrow, 1; White-breasted Nuthatch, 8; Chickadee, 13; Brown Creeper, 2. Total, 16 species, 401 individuals.—FRED J. STUPP.

Rhinebeck, N. Y.—December 28, 1902, 2 P. M. to 4 P. M. Fair, light northwesterly wind; temp., 28°. Bob-white, 2; Red-tailed Hawk, 1; Barred Owl, 1; Crow, 5; Hairy Woodpecker, 1; Downy Woodpecker, 2; Flicker, 1; Brown Creeper, 2; White-breasted Nuthatch, 3; Chickadee, 20; Golden-crowned Kinglet, 2. Total, 12 species, about 42 individuals.—M. S. CROSBY.

Central Park, New York City (59th Street to 86th Street).—Time, 10.30 A. M. to 1.15 P. M. About eight inches of snow on ground; snow or sleet falling throughout; no wind; temp., 34°. Herring Gull, about 150; Downy Woodpecker, 2; Flicker, 1; Starling, 3 (outside of park); White-throated Sparrow, 5; Song Sparrow, 4; Cardinal, 1; Brown Creeper, 1; White-breasted Nuthatch, 1; Golden-crowned Kinglet, 4. Total, 10 species, 172 individuals.—CLINTON G. ABBOTT.

Central Park, New York City.—Time, 9.45 A. M. to 12.45 P. M. Snowing heavily, ground covered; wind, northeast, brisk; temp., 34°. Herring Gull, 32; Downy Woodpecker, 2; Starling, 14; White-throated Sparrow, 14; Song Sparrow, 1; Cardinal, 3; White-breasted Nuthatch, 4; Golden-crowned Kinglet, 1. Total, 8 species, 71 individuals.—ISAAC BILDERSEE.

Central Park, New York City.—December 24, 1902; time, 4 hours, 10.15 to 2.15. Partly cloudy, ground bare; temp., 26°–31°. Herring Gull, about 130; Downy Woodpecker, 3 females; Chaffinch, 1; White-throated Sparrow, 14; Junco, 1; Song Sparrow, 3; Cardinal, 1 pair; Brown Creeper, 2; White-breasted Nuthatch, 1; Golden-crowned Kinglet, 2. Total, 10 species, about 160 individuals.—CHARLES H. ROGERS.

Bronx Park, New York City.—December 26, 1902; time, 11.10 to 1.25. Cloudy, about eight inches of snow on the ground. Downy Woodpecker, 1 pair; Crow, heard; Starling, about 25; American Goldfinch, about 10; White-throated Sparrow, about 10; Tree Sparrow, 4; Junco, about 15; Song Sparrow, 2; White-breasted Nuthatch, 1; Golden-crowned Kinglet, 1. Total, 9 species and about 70 individuals seen and one species heard.—CHARLES H. ROGERS.

Huntington, Long Island.—December 26, 1902; time, 2 to 4.30 P. M. Cloudy, ground covered with snow; wind, northwest, light; temp., 30°. Flicker, 2; Downy Woodpecker, 2; American Crow, 5; American Goldfinch, 4; Junco, 12; Song Sparrow, 2; Myrtle Warbler, 4; Chickadee, 4; Brown Creeper, 1; Golden-crowned Kinglet, 2. Total, 10 species, 38 individuals.—CHARLOTTE E. LEE.

Englewood, N. J.—Time, 8 A. M. to 1 P. M., 3 P. M. to 4 P. M. Heavy snow in the morning, cloudy in the afternoon; wind, northeast, light; eight inches snow on ground; temp., 31°. Downy Woodpecker, 1; Crow, 5; Blue Jay, 3; Cowbird, 1 male; Goldfinch, 3; Purple Finch, 3; Junco, 28; Tree Sparrow, 125; White-throated Sparrow, 2; Song Sparrow, 5; Myrtle Warbler, 36; Bluebird, 8. Total, 12 species, 220 individuals.—FRANK M. CHAPMAN.

Princeton, N. J.—Time, 10.20 A. M. to 2 P. M. Partly cloudy, ground snow-covered; wind, north, light; temp., 31°. Marsh Hawk, 1; Hairy Woodpecker, 1; Downy Woodpecker, 9; American Crow, 10; Blue Jay, 4; Meadowlark, 4; Purple Grackle, 1; American Goldfinch, 5; White-throated Sparrow, 17; Tree Sparrow, about 60; Junco, 11; Song Sparrow, 9; Cardinal, 4; Myrtle Warbler, 2; Brown Creeper, 3; Winter Wren, 1; White-breasted Nuthatch, 3; Red-breasted Nuthatch, 1; Tufted Titmouse, 5; Golden-crowned Kinglet, 2; American Robin, 2. Total, 21 species, 155 individuals.—W. M. NORRIS, JR.

Princeton, N. J.—Time, 9.48 to 11.14 A. M. and 4.40 to 5.45 P. M. Weather partly fair, partly overcast; ground snow-covered; temp., 31°. Marsh Hawk, 1; Flicker, 1; Meadowlark, 17; American Crow, 150 (estimated); Song Sparrow, 3; Tree Sparrow, 2; White-throated Sparrow, 1; Goldfinch, 2; Brown Creeper, 2; Tufted Titmouse, 3; Golden-crowned Kinglet, 7. Total, 11 species, 188 individuals.—JACK FINE and RANDOLPH WEST.

Moorestown, N. J.—Time, 7.22 A. M. to 6.40 P. M. Cloudy, snowing briskly; two inches snow on ground; wind, northeast, light; temp., 31°. Snowing ceased about 7.48 A. M. Sun cast shadow 10.05 A. M.; strong northwest wind with snow flurries about 3.30 P. M. Wilson's Snipe, 1; Marsh Hawk, 3; Red-tailed Hawk, 3; Red-shouldered Hawk, 2; Sparrow Hawk, 3; Downy Woodpecker, 7; Horned Lark, 50; Crow, several hundred; Blue Jay, 1; Meadowlark, 29 (one sings); Rusty Blackbird, 4; Goldfinch, 16; White-throated Sparrow, 17 (one sings); Tree Sparrow, 56; Snow Bird, 63; Song Sparrow 36 (two sing); Fox Sparrow, 1; Cardinal, 11; Northern Shrike, 2; Carolina Wren, 1; White-breasted Nuthatch, 2; Crested Titmouse, 7; Chickadee, 7; Golden-crowned Kinglet, 5. Total, 24 species, 326 individuals, not counting Crows.—WILLIAM B. EVANS.

West Chester, Pa.—Time, 7.30 A. M. to 5 P. M. Gentle snow, to cloudy to nearly clear; no wind; temp., 20°. Turkey Buzzard, 28; Red-tailed Hawk, 10; Hairy Woodpecker, 1; Downy Woodpecker, 5; Flicker, 2; Phoebe, 1; Horned Lark, 132; Crow, 500; Rusty Grackle, 1; Meadowlark, 36; Junco, 58; Goldfinch, 12; Tree Sparrow, 18; Song Sparrow, 13; Cardinal, 1; Brown Creeper, 1; White-breasted Nuthatch, 5; Winter Wren, 2; Golden-crowned Kinglet, 3. Total, 19 species, about 830 individuals.—JNO. D. CARTER.

West Chester, Pa.—Time, 8.30 A. M. to 12 M.; 2.30 P. M. to 4.30 P. M. Light snow; wind, west to northwest, light; temp., 25° to 30°. Red-tailed Hawk, 1; Sparrow Hawk, 2; Long-eared Owl, 1; Downy Woodpecker, 9; Hairy Woodpecker, 1; Crow, 30; Blue Jay, 1; Meadowlark, 23; Junco, 71; Tree Sparrow, 50; Song Sparrow, 25; Cardinal, 14; Brown Creeper, 2; Tufted Titmouse, 1; Bluebird, 2. Total, 15 species, 223 individuals.—THOMAS JACKSON, ROBERT SHARPLESS, C. E. EHINGER.

Bridesburg Meadows and Frankford, Philadelphia, Pa.—Time, 10.30 A. M. to 2.30 P. M. Cloudy, sun shining occasionally; two and one-half inches of snow; wind, west, calm; temp., 35°. Herring Gull, 2; Red-tailed Hawk, 1; Red-shouldered Hawk, 1; Sparrow Hawk, 2; Long-eared Owl, 1; Crow, 80-85; Redpoll, 8; Field Sparrow, 2; Tree Sparrow, 10-12; White-throated Sparrow, 4 or 5; Song Sparrow, 35-40; Cardinal, 1; Junco, 40-45; Winter Wren, 1 (sang); Brown Creeper (heard); Chickadee (heard); Bluebird, 5. Total, 17 species, about 210 individuals.—RICHARD F. MILLER.

Glenside, Pa.—Time, 9.15 to 11 A. M. Overcast, new snow on ground; slight north wind; temp., 32°. Red-shouldered Hawk, 1; Sparrow Hawk, 1; Long-eared Owl, 1; Downy Woodpecker, 2; Crow, 30; Goldfinch, 1; Tree Sparrow, 25; Junco, 20; Song Sparrow, 2; Cardinal Grosbeak, 2; Brown Creeper, 1; Golden-crested Kinglet, 3. Total, 12 species, 89 individuals. Time, 2.30 to 4 P. M. Spitting snow, moderate west wind; temp., 33° to 25°; (a different ground). Red-tailed Hawk, 1; Sparrow Hawk, 1; Downy Woodpecker, 5; Crow, 2; Junco, 75; Song Sparrow, 3; English Sparrow, 14. Total, 7 species, 101 individuals. Total for the day, 14 species, 190 individuals.—SAMUEL H. BARKER.

Overbrook, Pa.—Time, 8 A. M. to 11.30 A. M. Sky a uniform gray and a fine snow falling, afterwards clearing, but partly cloudy; about two inches of snow on the ground; wind, northwesterly, light; temp., 31°. Red-tailed Hawk, 2; Downy Woodpecker, 6; Flicker, 9; Crow, 40; White-throated Sparrow, 6; Tree Sparrow, 24; Junco, 12; Song Sparrow, 2; Cardinal, 1; Winter Wren, 2; White-breasted Nuthatch, 4. Total, 11 species, 108 individuals.—CHRESWELL J. HUNT.

Merlin, Pa.—Time, 7.40 A. M. to 11.50 A. M. Cloudy, ground snow-covered; wind, northwest, light; temp., 28°. Red-tailed Hawk, 2; Red-shouldered Hawk, 1; Hairy Woodpecker, 1; Downy Woodpecker, 4; Crow, 485; Blue Jay, 5; Meadowlark, 14; Junco, 160; Tree Sparrow, 230; Song Sparrow, 17; Cardinal, 2; Nuthatch, 2; Robin, 7; Bluebird, 1. Total, 14 species, 931 individuals.—ROY T. REED.

Roberstown, Pa.—Time, 8 A. M. to 1 P. M. Cloudy, ground snow-covered; wind, southeast, light; temp., 28°. Cooper's Hawk, 1; Downy Woodpecker, 1; Horned Lark, 12; Crow, 600; Meadowlark, 1; Junco, 68; Tree Sparrow, 5; Song Sparrow, 11; White-throated Sparrow, 2; Cardinal, 1; White-breasted Nuthatch, 7; Tufted Titmouse, 7. Total, 12 species, 719 individuals.

Durham, N. C.—Time, from 9 A. M. to 10 A. M. Light north wind; ground bare; slightly cloudy and very cold; temp., 28°. Turkey Vulture, 3; Hairy Woodpecker, 1; Tree Sparrow, 4; Song Sparrow, 12; Carolina Wren, 5; Brown Creeper, 1; White-breasted Nuthatch, 1; Tufted Titmouse, 2; Carolina Chickadee, 5. Total, 9 species, 34 individuals.—ERNEST SEEMAN.

Beaufort, S. C.—Time, 11 A. M. to 12.30 P. M. Clear; light west wind; temp., 40°. Mourning Dove, 10; Turkey Buzzard, 14; Red-bellied Woodpecker, 1; Flicker, 2; Phoebe, 1; Blue Jay, 5; Vesper Sparrow, 9; Meadowlark, about 100; Field Sparrow, 1; Song Sparrow, 1; Cardinal Grosbeak, 5; Loggerhead Shrike, 4; Myrtle Warbler, 3; Mockingbird, 13; Carolina Chickadee, 1; Ruby-crowned Kinglet, 1. Total, 16 species, 171 individuals.—ABBY CHRISTENSEN.

Knoxville, Tenn.—Time, 11 A. M. to 1 P. M. Clear; ground bare; wind, north, light; temp., 27°. Flicker, 8; Crow, a colony; Goldfinch, 12; Tufted Titmouse, 3; Carolina Chickadee, 6; Wren, 1. Total, 6 species, 36 individuals plus Crows.—MAGNOLIA WOODWARD.

Lexington, Ky.—Time, 10 A. M. to 12 noon; 2 P. M. to 4 P. M. Cloudy, with light, dry snow; ground bare; wind, west to northwest, brisk; temp., 15°. American Crow, 200, estimated; Bronzed Grackle, 2; Chickadee, 2; Golden-crowned Kinglet, 2. Total, 4 species, 206 individuals.—R. H. DEAN.

Medora, Jackson Co., Ind.—Time, 9 A. M. to 11.30 A. M.; 1.30 P. M. to 4 P. M. Cloudy, snow flurries; wind, northwest, strong; temp., 20°. Hairy Woodpecker, 13; Downy Woodpecker, 9; Red-bellied Woodpecker, 1; Red-headed Woodpecker, 7; Flicker, 25; Crow, 9; Blue Jay, 13; Junco, 154; Tree Sparrow, 132; Goldfinch, 4; White-throated Sparrow, 2; Cardinal, 7; Towhee, 13; Tufted Titmouse, 36; Black-capped Chickadee, 2; White-breasted Nuthatch, 10; Red-breasted Nuthatch, 1; Bewick's Wren, 3. Total, 18 species, 441 individuals.

Mount Carmel, Ill.—December 22, 8 A. M. to 11.30 A. M. Fair from 8 until 9, from 9 until 12 rather heavy rain, very muddy; wind, light, southwest; temp., 40°. Canada Goose, 60; Killdeer, 6; Mourning Dove, 5; Sparrow Hawk, 1; Hairy Woodpecker, 2; Downy Woodpecker, 5; Red-bellied Woodpecker, 6; Flicker, 13; Blue Jay, 9; Crow, 15; Meadowlark, 60; American Goldfinch, 7; Tree Sparrow, 50; Junco, 150; Song Sparrow, 25; Cardinal, 12; Carolina Wren, 3; Bewick's Wren, 2; White-breasted Nuthatch, 4; Tufted Titmouse, 20; Chickadee, 10; Bluebird, 7. Total, 22 species, 472 individuals. Meadowlarks, Bewick's Wren and one Song Sparrow were singing.—CHAS. F. BRENNAN.

Peoria, Ill.—Time, 10 A. M. to 2 P. M. Clear, with occasional snow flurries, one inch of snow on the ground; wind, northwest, very strong; temp., 4°. Rough-legged Hawk, 1; Hairy Woodpecker, 1; Downy Woodpecker, 4; Prairie Horned Lark, 1 (heard); Crow, 7; Blue Jay, 5; Junco and Tree Sparrow (three flocks, about equally divided), about 125; Cardinal, 3; Brown Creeper, 2; Chickadee, 9; White-breasted Nuthatch, 2. Total, 12 species, 160 individuals.—W. H. PACKARD and C. S. VANDEUSEN.

Rock Island, Ill.—Time, 11.40 A. M. to 12 M. Sky mostly clear, a few fleecy clouds; about one inch of snow; strong northwest wind; temp., -1°. Downy Woodpecker, 2; Chickadee, 4. Total, 2 species, 6 individuals.—BURTIS H. WILSON.

Delaware, Ohio.—Time, 2 to 3.45 P. M. Snowy, ground covered; wind, northwest, high; temp., 20°. Bob-white, 12; Mourning Dove, 2; Downy Woodpecker, 1; Blue Jay, 4; Junco, 20; Tree Sparrow, 2; Song Sparrow, 8; Cardinal, 2; White-breasted Nuthatch, 4; Tufted Titmouse, 2; Chickadee, 6. Total, 11 species, 63 individuals.—IDA NEWELL.

Cadiz, Ohio.—Time, 11.20 A. M. to 4.10 P. M. Cloudy; two and one-half inches of snow; wind, west, moderately strong; snow flurries; temp., 14°. Bob-white, 24; Mourning Dove, 7; Cooper's Hawk, 1; Hairy Woodpecker, 11; Downy Woodpecker, 9; Red-headed Woodpecker, 17; Red-bellied Woodpecker, 4; Flicker, 1; Blue Jay, 1; Goldfinch, 13; Tree Sparrow, 125; Junco, 40; Song Sparrow, 16; Cardinal, 9; Carolina Wren, 3; White-breasted Nuthatch, 14; Tufted Titmouse, 33; Chickadee, 20; Bluebird, 6. Total, 19 species, about 354 individuals.—HARRY B. MCCONNELL.

Oberlin, Ohio.—Time, 10 to 12 A. M. Snowing and drifting, three inches of snow; wind, strong, west by south; place, streets of Oberlin, Arboretum and Cemetery; temp., 16° to 20°. Sharp-shinned Hawk, 1; Northern Flicker, 4; Blue Jay, 3; Tree Sparrow, 4; Slate-colored Junco, 1; Song Sparrow, 4; Towhee, 1; Cardinal, 3; White-breasted Nuthatch, 1. Total, 9 species, 22 individuals.—LYNDS JONES.

Creston, Ohio.—Time, 9 A. M. to 1 P. M. Cloudy; wind, west and strong, with fine sleet and snow; temp., 20°. Mourning Dove, 6; Hairy Woodpecker, 2; Downy Woodpecker, 5; Red-bellied Woodpecker, 2; American Goldfinch, 2; Tree Sparrow, 7; Slate-colored Junco, 2; Song Sparrow, 4; Cardinal, 8; Carolina Wren, 1; White-breasted Nuthatch, 6; Tufted Titmouse, 12; Chickadee, 7. Total, 13 species, 64 individuals.—ROBT. L. BAIRD.

Waterford, Oakland Co., Mich.—Time, 2 P. M. to 5.30 P. M. Four inches of snow on ground; northwest wind; very cold. Ruffed Grouse, 1; Marsh Hawk, 1; Barred Owl, 1; Saw-whet Owl (?), 1; Hairy Woodpecker, 2; Downy Woodpecker, 4; Prairie Horned Lark, 12; Blue Jay, 2; American Crow (heard), 1; American Goldfinch, 40; Tree Sparrow, 9; Brown Creeper, 3; White-breasted Nuthatch, 1; Chickadee, 5; Golden-crowned Kinglet, 20. Total, 15 species, 101 individuals.—ALEXANDER W. BLAIN, JR.

Port Sanilac, Mich.—December 28, 12 M. to 2 P. M. Cloudy; ground covered with snow; wind, southwest, moderate; temp., 34°. Mallard, 25; Shore Lark, about 50; Crow, 2; Junco, 4; Tree Sparrow, 2; American Goldfinch, 7; Snowflake, about 150. Total, 7 species, 240 individuals.—HARRIET W. THOMSON.

Waupaca, Wis.—December 26, 8 A. M. to 4 P. M. Clear, eight inches of snow on ground; light west wind; temp., 10°. Ruffed Grouse, 4; Hairy Woodpecker, 2; Red-headed Woodpecker, 4; Blue Jay, 12; Snowflake, 7; Tree Sparrow, 18; White-breasted Nuthatch, 2; Chickadee, 12. Total, 8 species, 61 individuals.—F. A. POTTS.

Winneconne, Wis.—December 28, 1902, 8.45 to 12.15. Clear in morning, becoming cloudy after ten o'clock; light south wind; three to four inches of snow on ground; temp., 15°. Hairy Woodpecker, 5; Downy Woodpecker, 7; Blue Jay, 13; Crow, 12; Tree Sparrow, 1; Slate-colored Junco, 1; Brown Creeper, 2; White-breasted Nuthatch, 12; Chickadee, 10. Total, 9 species, 63 individuals.—HENRY P. SEVERSON.

North Freedom, Wis.—Time, 9 A. M. to 11.30 A. M. Cloudy, eight inches of snow; wind, cold, brisk, northwest; temp. averaged 2°. Bob-white, 10; Ruffed Grouse, 1; Hairy Woodpecker, 1; Downy Woodpecker, 1; Blue Jay, 1; Pine Siskin, 30; Tree Sparrow, 5; Junco, 3; White-breasted Nuthatch, 2; Chickadee, 2. Total, 10 species, 56 individuals.—ALICK WETMORE.

Albuquerque, New Mexico.—Time, 10.45 A. M. to 5 P. M. Clear; wind, northwest, light; temp., 40°. Sharp-shinned Hawk, 1; Red-shafted Flicker, 3; Desert Horned Lark, 400; Dusky Horned Lark, 200; American Raven, 3; Red-winged Blackbird, 20; Western Meadowlark, 6; Brewer's Blackbird, 15; House Finch, 300; Intermediate Sparrow, 60; Western Tree Sparrow, 25; Oregon Junco, 10; White-rumped Shrike, 2; Slender-billed Nuthatch, 1; Western Robin, 1. Total, 15 species, 1,047 individuals.—W. GRAY HARMAN.

Santa Barbara, Cal.—December 26, 1902, 9.45-11 A. M., 12-1 and 3-4 P. M. Clear, calm; temp., 65°. Baird's Cormorant, 4; Red-throated Loon, 1; Valley Partridge, 6; Cooper's Hawk, 1; Western Redtail, 1; Nuttall's Woodpecker, 3; California Woodpecker, 3; Red-shafted Flicker, 6; Nighthawk, 1 (7 P. M.); Anna's Hummer, 1; Say's Phoebe, 2; Black Phoebe, 4; California Jay, 7; California Purple Finch, 1; House Finch, 59; Arkansas Goldfinch, 58; Golden-crowned Sparrow, 7; Spurred Towhee, 3; California Brown Towhee, 20; California Shrike, 5; Hutton's Vireo, 8; Audubon's Warbler, 78; American Pipit, 1; Pasadena Thrasher, 7; Dotted Cañon Wren, 2; Plain Titmouse, 2; Wren-tit, 6; Bush-tit, 81; Ruby-crowned Kinglet, 3; Western Gnat-catcher, 2; Alaska Hermit Thrush, 2; Western Bluebird, 14. Total, 32 species, 399 individuals.—ANNA HEAD.

Questions for Bird Students

II

7. What bird has learned to sing the song of the Canary?
8. Mention an instance in which a bird is known to have nested far north of its regular breeding limits.
9. How often has the Chipping Sparrow been known to feed its young during one day?
10. How many birds have been recorded from British Columbia?
11. What Hawk is believed to track its prey in the snow, following it on foot?

For Teachers and Students

Bird-Lore's Advisory Council

WITH some slight alterations and additions, we reprint below the names and addresses of the ornithologists forming BIRD-LORE's 'Advisory Council,' which were first published in BIRD-LORE for February, 1900.

To those of our readers who are not familiar with the objects of the Council, we may state that it was formed for the purpose of placing students in direct communication with an authority on the bird-life of the region in which they live, to whom they might appeal for information and advice in the many difficulties which beset the isolated worker.

The success of the plan during the three years which it has been in operation fully equals our expectations; and from both students and members of the Council we have had very gratifying assurances of the happy results attending our efforts to bring the specialist in touch with those who appreciate the opportunity to avail themselves of his wider experience.

It is requested that all letters of inquiry sent to members of the Council be accompanied by a stamped and addressed envelope for use in replying.

With this issue we present the second series of portraits of members of the Council, the proposed publication of which has brought us many hearty approvals from our readers.

NAMES AND ADDRESSES OF MEMBERS OF THE ADVISORY COUNCIL

UNITED STATES AND TERRITORIES

ALASKA.—Dr. C. Hart Merriam, Biological Survey, Dept. of Agr., Washington, D. C.

ARIZONA, Northern.—Dr. E. A. Mearns, Fort Snelling, Minn.

ARIZONA, Southern.—Herbert Brown, Yuma, Ariz.

CALIFORNIA.—Charles A. Keeler, Calif. Acad. Sciences, San Francisco, Calif.

COLORADO.—Dr. W. H. Bergtold, 1460 Clayton Ave., Denver, Col.

CONNECTICUT.—J. H. Sage, Portland, Conn.

DELAWARE.—Witmer Stone, Academy Natural Sciences, Philadelphia, Pa.

DISTRICT OF COLUMBIA.—Dr. C. W. Richmond, U. S. Nat'l Mus., Washington, D. C.

FLORIDA.—Frank M. Chapman, American Museum Natural History, New York City.

FLORIDA, Western.—R. W. Williams, Jr., Tallahassee, Fla.

GEORGIA.—Dr. Eugene Murphy, Augusta, Ga.

ILLINOIS, Northern.—B. T. Gault, Glen Ellyn, Ill.

ILLINOIS, Southern.—Robert Ridgway, U. S. National Museum, Washington, D. C.

INDIANA.—A. W. Butler, State House, Indianapolis, Ind.

INDIAN TERRITORY.—Prof. W. W. Cooke, Biological Survey, Dept. of Agr., Wash-

IOWA.—Paul Bartsch, U. S. National Museum, Washington, D. C. [ington, D. C.]

KANSAS.—Prof. D. E. Lantz, Manhattan, Kan.

LOUISIANA.—Prof. George E. Beyer, Tulane University, New Orleans, La.

- MAINE.—O. W. Knight, Bangor, Me.
 MARYLAND.—F. C. Kirkwood, Box 364, Baltimore, Md.
 MASSACHUSETTS.—William Brewster, Cambridge, Mass.
 MICHIGAN.—Prof. W. B. Barrows, Agricultural College, Mich.
 MINNESOTA.—Dr. T. S. Roberts, 1603 Fourth avenue south, Minneapolis, Minn.
 MISSOURI.—O. Widmann, Old Orchard, Mo.
 MONTANA.—Prof. J. M. Elrod, University of Montana, Missoula, Mont.
 NEBRASKA.—Prof. E. H. Barbour, University of Nebraska, Lincoln, Neb.
 NEVADA.—Dr. A. K. Fisher, Biological Survey, Dept. of Agr., Washington, D. C.
 NEW HAMPSHIRE.—Prof. C. M. Weed, State Agricultural College, Durham, N. H.
 NEW JERSEY, Northern.—Frank M. Chapman, Am. Mus. Nat. History, New York City.
 NEW JERSEY, Southern.—Witmer Stone, Academy Natural Sciences, Philadelphia, Pa.
 NEW MEXICO.—Dr. A. K. Fisher, Biological Survey, Dept. of Agr., Washington, D. C.
 NEW YORK, Eastern.—Dr. A. K. Fisher, Biological Survey, Dept. of Agr., Washing-
 NEW YORK, Northern.—Egbert Bagg, 191 Genesee street, Utica, N. Y. [ton, D. C.
 NEW YORK, Western.—E. H. Eaton, Canandaigua, N. Y.
 NEW YORK, Long Island.—William Dutcher, 525 Manhattan ave., New York City.
 NORTH DAKOTA.—Prof. O. G. Libby, University, N. D.
 NORTH CAROLINA.—Prof. T. G. Pearson, Greensboro, N. C.
 OHIO.—Prof. Lynds Jones, Oberlin College, Oberlin, Ohio.
 OKLAHOMA.—Dr. A. K. Fisher, Biological Survey, Dept. of Agr., Washington, D. C.
 OREGON.—A. W. Anthony, 761½ Savier street, Portland, Ore.
 PENNSYLVANIA, Eastern.—Witmer Stone, Acad. Nat. Sciences, Philadelphia, Pa.
 PENNSYLVANIA, Western.—W. Clyde Todd, Carnegie Museum, Pittsburg, Pa.
 RHODE ISLAND.—J. M. Southwick, Museum Natural History, Roger Williams Park,
 SOUTH CAROLINA.—Dr. Eugene Murphy, Augusta, Ga. [Providence, R. I.
 TEXAS, Northern.—J. J. Carroll, Waco, Tex.
 TEXAS, Southeastern.—H. P. Attwater, Houston, Tex.
 TEXAS, Western.—Dr. E. A. Mearns, Fort Snelling, Minn.
 UTAH.—Prof. Marcus E. Jones, Salt Lake City, Utah.
 VERMONT.—Dr. F. H. Knowlton, U. S. National Museum, Washington, D. C.
 VIRGINIA.—Dr. W. C. Rives, 1723 I street, Washington, D. C.
 WASHINGTON.—Samuel F. Rathbun, Seattle, Wash.
 WEST VIRGINIA.—Dr. W. C. Rives, 1723 I street, Washington, D. C.
 WISCONSIN.—H. Nehrling, 254 21st street, Milwaukee, Wis.
 WYOMING.—Dr. Mortimer Jesurun, Douglas, Wyo.

CANADA

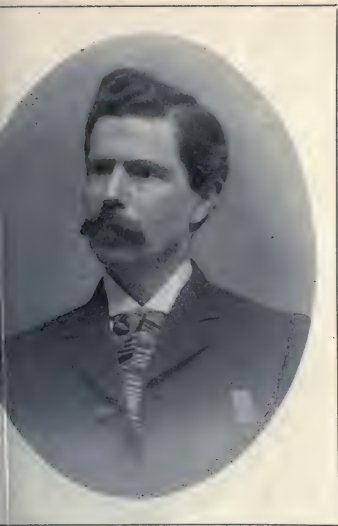
- BRITISH COLUMBIA.—John Fannin, Provincial Museum, Victoria, B. C.
 MANITOBA.—Ernest Thompson Seton, 80 W. 40th street, New York City.
 NEW BRUNSWICK.—Montague Chamberlain, Boston, Mass.
 NOVA SCOTIA.—Harry Piers, Provincial Museum, Halifax, N. S.
 ONTARIO, Eastern.—James H. Fleming, 267 Rusholme Road, Toronto, Ont.
 ONTARIO, Western.—T. McIlwraith, Hamilton, Ont.
 ONTARIO, Western.—E. W. Saunders, London, Ont.
 QUEBEC.—E. D. Wintle, 189 St. James street, Montreal, Can.

MEXICO

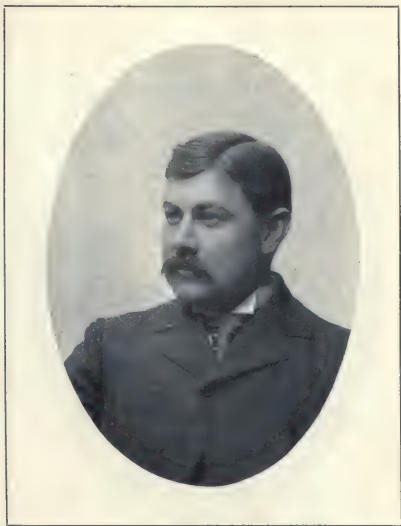
- E. W. Nelson, Biological Survey, Department of Agriculture, Washington, D. C.

WEST INDIES

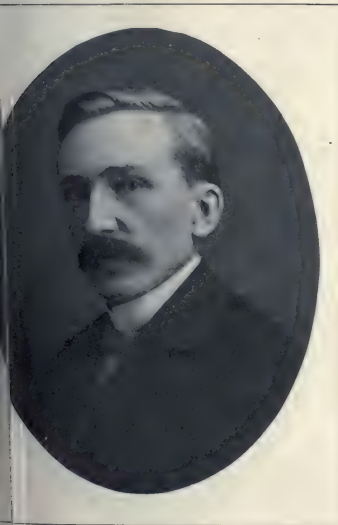
- C. B. Cory, 160 Boylston street, Boston, Mass.



ROBERT RIDGWAY. *Southern Illinois*



A. K. FISHER
Nevada, New Mexico, Eastern New York, Oklahoma



T. S. ROBERTS, *Minnesota*



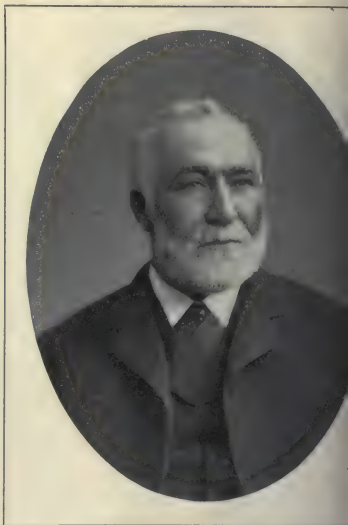
J. M. SOUTHWICK, *Rhode Island*

BIRD-LORE'S ADVISORY COUNCILORS

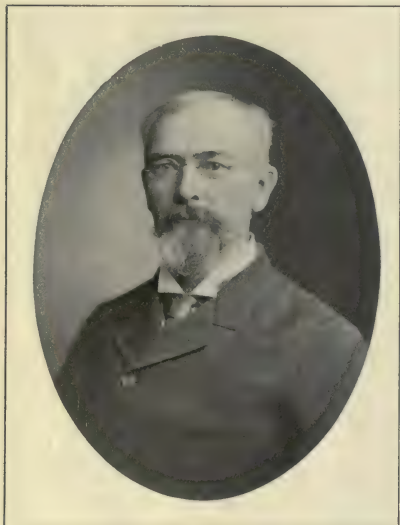
SECOND SERIES



JOHN FANNIN, *British Columbia*



T. MCILWRAITH, *Western Ontario*



MARCUS E. JONES, *Utah*



EGBERT BAGG, *Northern New York*

BIRD-LORE'S ADVISORY COUNCILORS

SECOND SERIES

How to Study Birds

THE NESTING SEASON

BY FRANK M. CHAPMAN

SECOND PAPER

Time of the year.—Why should a bird build its nest at a certain time of the year? Some variation in nesting dates, it is true, is

*Time of the
nesting season*

shown by all species of birds, but they do not affect the truth of the statement that most species have a definite nesting season when, year after year, they may be found occupied with household cares. In March, near New York city, we look for the Barred Owl; by April 15 the Bluebirds have returned to their favorite box; about May 10 the Phoebe will have finished its mossy structure; while the middle of June will have come before the Cedarbird and Goldfinch are domiciled.

In a general way, it may be answered that the nesting period, as a whole, is determined by those seasonal changes which, independent of latitude, divide the year into winter, spring, summer and autumn. In the extreme North it is possible for birds to nest during only a small portion of the year; here the relation between the nesting period and the season is obvious enough. But in the South the same reason does not hold good, for, as far as climate is concerned, birds might rear their young any month in the year.

So we look for a deeper reason why there should be this regular, annual nesting season, and we find it in the bird itself. In the bird world, as in the plant world, there exist cycles of physiological development. The tree leaves, blossoms, fruits, loses its foliage and rests; then, all in their due time, the same events are repeated in their proper order. Thus the bird migrates (if it be a migratory species), mates, builds its nests, lays its eggs, incubates, rears its young, molts, acquires a new plumage and migrates to winter quarters.

*Birds and
trees*

There are, of course, exceptions to this program, as where a bird raises more than one brood or has more than one molt; but these are only variations in the underlying physiological laws which, through a regular series of phenomena, prepare the bird for the nesting season. Probably their simplest manifestation may be found among the sea-birds of the tropics, which, as regards climate and food, live all the year under practically the same conditions, and still have their annual nesting season, going to their breeding grounds with the utmost regularity.

The insect-, seed- and fruit-eating species, however, require an abundant supply of food during the nesting season, when, within a comparatively limited area, they must find sustenance for their young as well as for themselves. Now, while it is true that in the tropics food is to be had the year

round, it is far more abundant and varied in the spring and summer than at other seasons. Then, with the coming of the rains, the trees renew their foliage, blossom and fruit; then insects become more active and far more numerous, and, coincident with these developments, the instincts of the nesting season become active in birds.

Confining ourselves to the birds in which we are more particularly interested, we have seen that some species nest early and some late.

Food of the young Why is this? The character of the food of the young is the most obvious cause determining the exact date of a bird's nesting. Hence those birds of prey which feed their offspring on mammals or birds are our first nesters, while those birds which rear their broods on insects or fruit nest later.

But is not a bird's nesting time also dependent on whether it be migratory or resident? This is a difficult question to answer, since it is by no means easy to determine whether or not a species is resident, in the strict sense of the word. Among resident species, of not dissimilar feeding habits, there is much difference in nesting habits. The White-breasted Nuthatch, for instance, near New York city, nests in the middle of April, while the Downy Woodpecker waits until a month later. The Bluebird nests in the first half of April, the Cedarbird the latter half of June. Just why this difference should exist is one of the things we should like to know. Possibly a study of the food of the young birds may answer the question. Some migratory birds arriving in this latitude at about the same time also nest at widely different dates. Robins and Red-winged Blackbirds come from the South at about the same time, in late February or early March; but the Robins nest nearly a month earlier than the Blackbirds. Here, again, the difficulty of distinguishing breeding birds from transients complicates the problem; and only careful, prolonged field study will tell us whether the first comers among these and other

Nature of haunts summer resident birds are breeding birds or migrants to a more northern nesting resort. Haunt also exercises some influence in this case. The early-nesting Robins find favorable sites in evergreens long before the marshes the Blackbirds love afford concealment for their nests. The Woodcock, on the other hand, nests shortly after its arrival; perhaps because a nesting site is at once available.

Consequently, in addition to those physiological influences which induce an annual nesting season as one of the phenomena in the cycle of events making the bird's year, the date of a bird's nesting appears to be governed by (1) the nature of the food of its young; (2) whether it is resident or migratory, though this remains to be determined; and (3) the condition of its nesting haunts. To these

will doubtless be added other causes, as we become more intimate with the facts involved.

Why should some birds raise only one brood, and others two or even three? We should look for an answer to this question primarily in the length of time required by a species to rear its brood. If the period from the beginning of the nest to the day when the young are able to care for themselves is so short that the parent birds are still in the physiological condition incident to nesting time, the rearing of a second brood may perhaps be expected; and, under similar circumstances, a third may follow. The English Sparrow is reported to have raised six broods in a season; but, so far as I am aware, no native bird is known to have raised more than three; and authentic instances of this kind are rare, so difficult is it to keep the same individuals under continuous observation. Doubtless, most of the records of late breeding on which the assumption of third broods is based, are due to the failure of earlier attempts at nesting.

But while the reason above given may explain why certain birds do not raise more than one brood, it does not tell us why, among birds in which the period of incubation and growth of the young are about the same, some species should rear only one brood while others have two or three.

The time of a bird's arrival on the nesting grounds should, of course, be considered here; and we must also take into account the time of a bird's departure for its winter haunts, without in the least being able to say why it should go at a definite time.

Still, with both permanent residents and migrants, which come and go at about the same season, single- and double- or even triple-brooded birds may be found. For instance, of our permanent residents, the Song Sparrow rears two broods, and, on occasions, three, while the Chickadee has but one; and, among migrants, the Robin is two-, or, rarely, three-brooded, and the Purple Grackle, which comes to us fully as early as the Robin and remains nearly as long, is one-brooded.

I confess no satisfactory reason for this difference occurs to me. Doubtless, a tabulation of our birds with regard to the date when they begin to nest, time occupied in rearing a brood, and number of broods reared, would throw some light on the subject; but much of this information, particularly that relating to the time required for incubation and growth of the young, is still to be acquired.

(TO BE CONTINUED)

Mounted Birds in Illustration

EDITOR OF BIRD-LÖRE :

My Dear Sir—The use of photographs of stuffed birds as illustrations in bird-books has become an insidious stumbling-block in the path of those you are trying to lead to see the beauty of life in all its forms, and an affliction to the more intimate bird-lovers, especially to such as have a more than usually developed sight sense.

The fact that the average bird-student cannot tell the difference between a photograph of a live bird and one from a skilfully mounted skin is all the more reason against the use of the latter; since he needs protection from deception. In fact, we agree that beginners in all fields should be fed, mentally, on the purest food.

The camera gives us, as by miracle, Life, manifest in the thousand exquisite details of the bird's appearance, and utterly unachievable save by the creature's spontaneous self-adjustment. And now that we have tasted this feast for the mind and the eye, the possibility of looking unpained at the mummy picture is gone.

To the seeing few, such pictures are exactly as depressing as similar reproductions of human mummies would be. While the mind may be acquiring from them some facts about birds' markings, etc., the heart is feeling something of the horror one would feel at a corpse. Surely the dullest-sighted bird-student must ultimately grow to see their more than corpse-like ugliness. In fact, a dead body has still its anatomical structure, not imitable by wire and cotton wadding.

Since Nature and Beauty are infinite, a photograph of a live, free animal, or of a true artist's picture of the animal, will grow forever upon the observer; while one of those horrible "fakes" charms, at best, only for an instant, and then looks steadily worse and worse, as one's acquaintance grows.

Life is so the whole thing for us that, even where a marvel of taxidermy cheats us for a moment, the ghastly death fact, once out, spoils all enjoyment.

An artist's picture of the same animal drawn from life might be no truer in action, and yet not pain one by the false claim made by the actual surface, the hair, claws, etc., preserved in taxidermy. The lasting effect of the artist's picture upon the beholder would be *life*; while of the taxidermist's, it would be *death*. Taxidermy itself, even with all its ugliness, is free at least from deception; since it cannot give motion to its productions. The actual animal would move, the stuffed one does not. But a *picture* of the latter has no such guarantee against deception.

Of course, if a great figure-painter chanced to have, instead of his human figure gift, a similar one for animal or bird painting, he would

utterly surpass photography, though not on its own lines, by virtue of the divine element of intuitive choice and elimination,—a thing denied to photography.

But, as the case stands, photography's exquisite revelations go far beyond all art productions in the same field.

MONADNOCK, N. H., Nov. 15, 1902.

• ABBOTT H. THAYER.



What Bird is This?

Field Description.—Length, 8 inches. Above dark brownish, the head streaked, the back spotted with white; below white, streaked with reddish brown; feet feathered; eyes yellow.

NOTE.—Each number of BIRD-LORE will contain a photograph, from specimens in the American Museum of Natural History, of some comparatively little-known bird, or bird in obscure plumage, the name of which will be withheld until the succeeding number of the magazine; it being believed that this method of arousing the student's curiosity will result in impressing the bird's characters upon his mind far more strongly than if its name were given with the picture.

The species figured in December is a female or young male Purple Finch.

Notes from Field and Study

Attracting Birds

To attract birds to our yard, I placed a low tree stump in the garden and kept a large flower-pot saucer on it, filled with water. Birds of many kinds came there to drink and bathe. When the Bluebirds arrived in the neighborhood I put a Bluebird house out on a pole, so that it was about ten feet from the ground. In less than two hours a pair of birds were inspecting the little tenement.

The Robins came next. When I discovered a Robin building in the cherry tree I made a mud-bath for him,—that is, I arranged a low dish filled with a mixture of garden soil and water. This preparation was no more than placed under the tree when the male bird came. He hopped into it and quickly made his little mud-balls, returning several times. This attracted more than one pair of Robins. In fact, three built in the different trees.

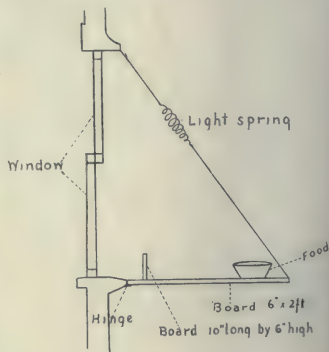
Third, came the Chipping Sparrows. For them I scattered horse-hair about, and kept a dish of water on the ground. Two of this species built in the yard.

The Orioles appeared in May. I tried to call their attention by dropping colored yarns and strings about in the grass and on the bushes. They came and wove their home among the elm-tree boughs. The male Oriole cared for the young ones and was kept busy taking food to them. On one occasion I saw him in the street picking and pulling at something. After he had flown away, I found the remainder of a tent caterpillar cocoon; he had extracted the contents and given it to the little ones.

The cherries ripened by July, and many species of birds came to the tree. It was curious to note how differently they ate the fruit. The Robins pulled off the cherries and flew to the sidewalk, where they picked them to pieces; the Bluebirds attacked only those that had fallen on the ground; while the Oriole ate one as soon as he pulled it from its stem. The Kingbird frequently

visited the tree. Instead of sitting on a branch and pulling at one, as the Robins did, he poised himself in the air and tugged at the cherry until it was wrenched from its stem. Then he flew to the near birch and balanced the fruit by giving it little tosses in the air, two or three inches above his head, catching it every time it fell. Finally it disappeared down his throat.

During the season seven birds built upon the premises—and why? If it was the bird bath, the mud and the nesting material about the yard, then birds can easily be attracted by others.—MARY E. DOLBEAR, *Tufts College, Mass.*



An Anti-Sparrow Food-Shelf

Mr. W. W. Grant of Summit, N. J., sends us the accompanying plan for a window food-shelf, to which, he writes, such comparatively wild birds as Tanagers, Flickers and others come, but which the English Sparrow will not, after one trial, visit. A board is hinged to the window-sill, and from the far end (see cut) a string is run to the top of the window, with a light spring between. When a bird alights on the platform, the latter will swing up and down, the amount of swing depending on the birds and the weight of the spring, to which the string is attached.

Book News and Reviews

THE BIRDS OF NORTH AND MIDDLE AMERICA. By ROBERT RIDGWAY. Part II. Bull. No. 50, U. S. Nat. Mus., Washington, 1902. 8 vo. xx + 834 pages; xxii plates.

We have already expressed our high appreciation of the first part of this great work, treating of the Finches, and can accord to this second part equally sincere praise. The families included, with the number of species and subspecies given in each, are as follows: Tanagers, 112; Blackbirds, Orioles, etc., 111; Honey Creepers, 29; Warblers, 181.

Experience with Part I of the work proves in practice its great utility; and we imagine each succeeding part will be more cordially welcomed than its predecessor, as use brings a realization of the enormous value of the book.—F. M. C.

LONDON BIRDS, AND OTHER SKETCHES. By T. DIGBY PIGOTT. New Edition, revised and enlarged. London, Edward Arnold. New York, Longmans, Green & Co. 8vo. xiii + 256 pages; 8 plates.

'London Birds,' 'The Birds of the Outer Faroës,' 'The Shetlands in the Birds' Nesting Season,' 'The Last English Home of the Bearded Tit,' 'St. Kilda from Without,' and the 'Haunts of the Shearwater' are titles of some of the chapters in this volume and indicate the nature of its contents. The author has evidently drawn on his more interesting experiences afield, and these he recounts in so readable a manner that the book is a more than usually attractive one of its class. We commend it, therefore, to our readers as a work in which they will find much information pleasingly presented.—F. M. C.

THE STORY OF A MARTIN COLONY. By J. WARREN JACOBS, Waynesburg, Pa. Published by the author.

Mr. Jacobs' experience with Purple Martins is exceedingly interesting and possesses both scientific and practical value. His first Martin house was erected in 1896. It contained twenty rooms and was tenanted

that year by eight birds, who succeeded in rearing eleven young. The following year this house was occupied by twenty birds and the number of young raised was thirty-five.

The third year a second Martin house, of thirty-four rooms, was erected, and twenty-eight birds took possession of it that season; while twenty-four birds nested in house number one; the total number of young reared being between ninety and one hundred. The fourth year (1899) a third house was added and the colony grew to one hundred and six birds, thirty-two in each of the first two houses, and forty-two in the new house. The number of young which reached maturity this season was between one hundred and fifty and one hundred and seventy-five. At the end of only four years, therefore, the colony contained nearly three hundred birds!

Mr. Jacobs now constructed several Martin houses, which were erected by other residents of Waynesburg, and, in due season, were claimed by the birds for which they were designed.

It is a highly significant fact that, in nearly every instance, the new houses were taken possession of by males (and probably, also, females) of the previous year, the progeny, doubtless, of the birds already established. As long as additional nesting-sites were afforded the birds, it appears that they continued rapidly to increase. If, however, additional quarters had not been available the birds would, naturally, have been obliged to search for them elsewhere; when, if a home had not been discovered, there would have been no increase in the total progeny of the original colony—an interesting illustration of how effectually the numbers of a species may be governed by the lack of suitable nesting-places.

We must refer the reader to Mr. Jacobs' paper for further details of this welcome contribution to our intimate knowledge of birds' habits. We may add, however, that



MARTIN HOUSES

(From 'The Story of a Martin Colony,' by courtesy of its author)

among the elements of his success were houses placed at least thirteen feet from the ground and with rooms not less than five inches square and six inches high; the destruction of cats and of about three hundred English Sparrows annually; and the prosecution and conviction of that species of the genus *Homo* who labors under the delusion that every feathered creature was intended to form a mark for his shot-gun or rifle. We congratulate Mr. Jacobs on his success in protecting his Martins from these, their unnatural enemies, and on his attractive presentation of the results of his studies.—F. M. C.

A BIOLOGICAL INVESTIGATION OF THE HUDSON BAY REGION. By EDWARD A. PREBLE. N. A. Fauna, No. 22, Division of Biological Survey, U. S. Dept. of Agriculture, 1902.

On June 14, 1900, Mr. Preble, accompanied by his brother, left Winnipeg, and on the 17th reached Norway House. June 23, with two Indians for guides, the trip was resumed in a Petersborough canoe, in which they arrived at York Factory, on Hudson Bay. Thence to Fort Churchill they voyaged in a sail-boat. From this point Mr. Preble made a three weeks' boat-trip, and on rejoining his brother at Fort Churchill they at once started on their return trip, Winnipeg being reached September 22. This, in brief, is the outline of a trip of over 1,200 miles, attended by no little hardship, and the successful outcome of which may evidently be attributed to no small amount of pluck, endurance and perseverance.

Mr. Preble's report on his expedition includes a detailed review of the work of previous natural history explorers, and, of course, the results of his own observations. Fifty-seven of the one hundred and thirty-four pages of his report (pages 75-131) are devoted to birds, his list including all the species which have been recorded from the Hudson Bay Province of Keewatin.

We cannot comment on this list in detail; but we can at least commend it from both a field and a study standpoint as a thoroughly good piece of work.—F. M. C.

The Ornithological Magazines

THE CONDOR.—Several faunal papers of unusual interest make up the principal contents of the November-December number of 'The Condor.' Two of these, Grinnell's 'Birds of the Little Sur River, Monterey County,' and W. K. Fisher's concluding paper on 'The Redwood Belt of Northwestern California,' treat of the peculiar avifauna of the humid coastal region. The former contains an account of the characteristic birds seen on a three days' trip, made in July, to a section of Monterey county which is almost unknown ornithologically. The latter gives an annotated list of land birds of the redwood belt in Humboldt and Del Norte counties, from which it appears that three subspecies of Song Sparrows (*Melospiza cinerea cleonensis*, *M. c. phæa* and *M. c. morphna*) have been taken at Crescent City, in the last-named county. Under the caption 'A List of Birds Collected in Norton Sound, Alaska,' McGregor gives the results of several weeks' work in the summer of 1900. Among the birds collected were three Old World species, the Siberian Yellow Wagtail, the Willow Warbler and the Wheatear, on which the notes might have been considerably extended with advantage. There are many facts in regard to the habits of these birds in Alaska which are important, but most authors apparently do not make an effort to obtain notes on habits or else consider them of little value and give merely a record of the specimens obtained.

An article on 'The Least Tern at San Diego,' by F. W. Kelsey, illustrated by an excellent photograph of the nest and eggs, and an account of the breeding of 'The Holbæll Grebe in Montana,' by P. M. Silloway, complete the list of general articles. Mr. Silloway describes, with some detail, a marsh, a square mile or more in extent, at the head of Swan Lake, Montana, which was inhabited by a small colony of some five pairs of Grebes in the summer of 1902. For two weeks or more this area was systematically examined until, as he says, "it appeared to me that I had located: [and collected] every nest of *G.*

holbaelli in the swamp." Seven sets were collected, apparently including one or two second layings and comprising in all twenty-eight eggs—not a large series, it is true, but evidently representing *all* the eggs of the colony. Why it was necessary to take every set in the swamp, when collecting ostensibly for scientific purposes is not explained; but such destructive methods of collecting could hardly be justified any more than the work of the plume-hunter gathering skins for market.

A brief editorial announces the sad news of the death of Chester Barlow on November 6, 1902. In Barlow's death 'The Condor' has lost its editor and guiding spirit; and the Cooper Ornithological Club an energetic secretary and enthusiastic member. The influence which he exerted in California was unique and is well described in the brief statement, "Barlow has done more to spread an interest in ornithology and to stimulate bird study on the west coast than any one man, living or dead."—T. S. P.

THE OSPREY.—The July issue of 'The Osprey' appeared about December 15, and contained, besides the continued article by Doctor Gill on the 'General History of Birds,' three other papers, as follows: 'Notes on Birds of the Pribilof Islands,' by Dr. D. W. Prentiss, Jr.; 'A Study of the Genus *Perisoreus*,' by R. H. Howe, Jr., and 'The Cerulean Warbler a Summer Resident near Washington,' by W. R. Maxon. There also is a beginning of an obituary notice of Dr. James G. Cooper, by Dr. William H. Dall.

Doctor Prentiss, in his notes on the 'Birds of the Fur Seal Islands,' presents some very interesting matter relative to the habits, abundance and local distribution of the birds of that far-off group of islands. The observations on the twenty-five species enumerated were made during a two months' visit in the summer of 1895. By a slip of the pen, the name of the Common Puffin, *arctica*, is substituted for that of the Horned Puffin, *corniculata*. In another case, the scientific name of a Gull is coupled with the common name of another, so that

it is not clear whether the notes are intended to refer to the Glaucous-winged Gull or the Point Barrow Gull, which latter species was not uncommon about the islands in July, 1899.

In his study of the genus *Perisoreus*, Mr. Howe states that the type of *Perisoreus oregonensis* was from the 'British Columbia region,' apparently being unaware that it really came from the eastern slopes of the Cascades of Washington, where it was secured by the reviewer in the summer of 1897. This error in placing the type locality may account for his remarkable statement that it is impossible, as a rule, to separate specimens of *griseus* from Nova Scotia examples. As a matter of fact, it is doubtful if any forms among the American representatives of the genus show greater differences than these two, which he claims he is unable to separate.—A. K. F.

Book News

We have received a communication from Messrs. Dana Estes & Co., publishers of Coues' 'Key,' from which we quote as follows:

"Messrs. Dana Estes & Co. announce that the fifth revised edition of the 'Key to North American Birds,' by Dr. Elliott Coues, will be ready in the spring of 1903. The reason for the unusual delay in its publication may be briefly stated. When Dr. Coues died, in 1899, he left the manuscript wholly finished; but the copy was rendered hard to decipher, without the exercise of most intelligent care, by reason of innumerable interlineations, erasures, abbreviations, 'riders,' and detached notes, written in a minute and sometimes difficult handwriting. His sudden death left the copy in such shape that the task of revision and preparation for the press required double the amount of work that had been anticipated. The publishers, however, have had the good fortune to obtain the services of a thoroughly equipped ornithologist, who has read the proof with the most painstaking care, which has been ably supplemented by the efforts of a number of professional proof-readers."

Bird-Lore

A Bi-monthly Magazine

Devoted to the Study and Protection of Birds

OFFICIAL ORGAN OF THE AUDUBON SOCIETIES

Edited by FRANK M. CHAPMAN

Published by THE MACMILLAN COMPANY

Vol. V Published February 1, 1903 No. 1

SUBSCRIPTION RATES

Price in the United States, Canada, and Mexico twenty cents a number, one dollar a year, postage paid.

Subscriptions may be sent to the Publishers, at Harrisburg, Pennsylvania, or 66 Fifth avenue, New York City.

Price in all countries in the International Postal Union, twenty-five cents a number, one dollar and a quarter a year, postage paid.

COPYRIGHTED, 1903, BY FRANK M. CHAPMAN

Bird-Lore's Motto:

A Bird in the Bush is Worth Two in the Hand

THE articles on the Nuthatches in this number of BIRD-LORE are especially interesting for the evidence given of the permanent residence of an individual bird at one locality throughout the year; and also of the return of a migratory bird to the same locality on successive winters.

On another page we print a protest from Mr. Abbott H. Thayer against the publication of photographs of mounted birds. With much of what Mr. Thayer says we are in thorough accord. Still we feel that his condemnation of the use of mounted birds for illustrative purposes is too sweeping. The attempt to pass off a photograph of a mounted bird for that of a living one is a moral and scientific lie, for which there is no excuse.

Nor should we for an instant defend the publication of photographs of poorly-mounted birds; such, for example, as disfigure the pages of numerous modern bird books.

It is possible, however, to mount a bird perfectly,—so perfectly that the better the beholder knows the bird in nature the more satisfaction will he receive from the art of the taxidermist; and its expression will prove a stimulus to his memories of the bird in life. If this is not so, if perfection

in taxidermy be impossible, let us abandon at once our effort to bring nature within the walls of our museums; our strivings so to display animals that they will not only be interesting and truly educational to those who do not know them, but will give pleasure to those who do.

While we trust it is needless for us to say how heartily we endorse Mr. Thayer's high estimate of the value of the camera in portraying birds, good photographs of birds in nature are not often available, when a photograph of a well-mounted bird, *presented as such*, will, we think, prove more desirable than the average drawing.

OUR statement in the last number of BIRD-LORE, that only five ornithological journals in this country have lived to see their fifth birthday, having apparently been misunderstood, we think it well to name the magazines in question, premising the list with the explanation that by "ornithological magazine" we mean a magazine devoted wholly to the interests of birds or bird-study. With this restriction, then, the list stands: (1) 'The Auk,' which, as a "continuation of the Bulletin of the Nuttall Ornithological Club," established in 1876 and continued for eight years under that title, is now in its twenty-seventh volume, being the oldest, as it is the foremost journal of ornithology in this country; (2) 'The Ornithologist and Oölogist,' established in 1875 as 'The Oölogist' and issued under that title for five volumes, when the name was changed, as indicated, and held until the final issue of this pioneer amateur journal, in October, 1893; (3) 'The Oölogist,' established in 1884 as 'The Young Oölogist,' issued for two volumes under that name, and now in its nineteenth volume; (4) 'The Wilson Bulletin,' established in 1895, and now in its fifteenth volume; (5) 'The Osprey,' established in 1896 and now in its seventh volume, the last number received being dated July, 1902. To this honor roll are now to be added 'The Condor,' 'The Journal of the Maine Ornithological Society,' and BIRD-LORE, all of which celebrate their fifth birthday with their first issues for 1903.

The Audubon Societies

*"You cannot with a scalpel find the poet's soul,
Nor yet the wild bird's song."*

Edited by MRS. MABEL OSGOOD WRIGHT (President of the Audubon Society of the State of Connecticut), Fairfield, Conn., to whom all communications relating to the work of the Audubon and other Bird Protective Societies should be addressed. Reports, etc., designed for this department should be sent at least one month prior to the date of publication.

DIRECTORY OF STATE AUDUBON SOCIETIES

With names and addresses of their Secretaries

California.....	MRS. GEORGE S. GAY, Redlands.
Connecticut.....	MRS. WILLIAM BROWN GLOVER, Fairfield.
Delaware.....	MRS. WM. S. HILLES, Delamare Place, Wilmington.
District of Columbia.....	MRS. JOHN DEWHURST PATTEN, 2212 R street, Washington.
Florida.....	MRS. I. VANDERPOOL, Maitland.
Illinois.....	MISS MARY DRUMMOND, 208 West street, Wheaton.
Indiana.....	W. W. WOOLEN, Indianapolis.
Iowa.....	MRS. L. E. FELT, Keokuk.
Kentucky.....	INGRAM CROCKETT, Henderson.
Maine.....	MRS. C. B. TUTTLE, Fairfield.
Maryland.....	MISS ANNE WESTON WHITNEY, 715 St. Paul street, Baltimore.
Massachusetts.....	MISS HARRIET E. RICHARDS, care Boston Society of Natural History, Boston.
Minnesota.....	MISS SARAH L. PUTNAM, 125 Inglehart street, St. Paul.
Missouri.....	AUGUST REESE, 2516 North Fourteenth street, St. Louis.
Nebraska.....	MISS JAY HIGGINS Lee, 554 South 30th street, Omaha.
New Hampshire.....	MRS. F. W. BATCHELDER, Manchester.
New Jersey.....	MISS JULIA SCRIBNER, 510 E. Front street, Plainfield, N. J.
New York.....	MISS EMMA H. LOCKWOOD, 243 West Seventy-fifth street, New York City.
North Carolina.....	T. GILBERT PEARSON, Greensboro.
Ohio.....	MRS. D. Z. MCCLELLAND, 820 West Ninth street, Cincinnati.
Oklahoma.....	MRS. ADELIA HOLCOMB, Enid.
Oregon.....	MISS GERTRUDE METCALFE, 634 Williams ave., Portland.
Pennsylvania.....	MRS. EDWARD ROBINS, 114 South Twenty-first street, Philadelphia.
Rhode Island.....	MARTHA R. CLARKE, 89 Brown street, Providence.
South Carolina.....	MISS S. A. SMYTH, Legare street, Charleston.
Tennessee.....	MRS. C. C. CONNER, Ripley.
Vermont.....	MRS. FLETCHER K. BARROWS, Brattleboro.
Virginia.....	MRS. J. C. PLANT, Glencarlyn.
Wisconsin.....	MRS. REUBEN G. THWAITES, 260 Langdon street, Madison.
Wyoming.....	MRS. N. R. DAVIS, Cheyenne.

The Spread of Bird Protection

Bird protection has not only come to stay, but the legislative aid it is receiving, as well as the commotion it is raising in hostile quarters, must convince the most careless that it has now passed safely through that crucial period of "first enthusiasm" so fatal to many well-intentioned reforms of the genus *Fad*.

The increasing list of state societies, Oklahoma and Nebraska being the last recruits, tells of local interest; while at the recent meeting of the National Committee at Washington, D. C., a plan of work was outlined that will not only strengthen and supplement the educational work of the state societies, but supply the only

means of their joining hands, so to speak, across debatable and remote borderlands, where individual effort, however earnest cannot aid the migrant birds. This interest must not cease at our own shores even; we can aid in hastening international protection by refusing to receive at our ports of entry birds of other countries allied to our own species, for it is only in this way that the universal temptation of plume-hunting, for a certain class, can be cured, in spite of some short-sighted and selfish arguments to the contrary that were successfully combatted in the pages of this journal.

It is BIRD-LORE's aim, especially in this department, to record all matters bearing upon what is known as the Audubon

Movement, so that it shall live up to its title as the organ of these societies, and furnish the necessary information and encouragement to those desiring to join in the work: It is impossible for the editor continually to repeat what has appeared for the last four years in these pages in answer to personal letters asking, "What is the Audubon movement? How do you join a society?" etc., etc.; and friends of the work, or those desiring to become such, are referred to the nearest library for files of this magazine.

In order that all may keep in touch with similar work in other countries, BIRD-LORE has had the good fortune to secure a series of papers upon Bird Protection Abroad, by Dr. T. S. Palmer, the first, covering India, appearing in this issue.

Let us read them carefully, for the sooner we learn that not only national but international coöperation is the only cement that will hold together the stones of individual effort that are to build the protective wall against which the shot of plume- and pot-hunter is to rattle in vain, the sooner shall that wall rise in its might to be one of the grandest monuments of the best spirit of modern civilization.

M. O. W.

BIRD PROTECTION ABROAD

I. Bird Protection in India*

By T. S. PALMER

The large number of Indian birds used by the millinery trade this season renders the subject of bird protection in India one of general interest. Apparently, the first movement for the protection of birds in British India was a proposal to secure the passage of a game law, which was discussed as early as 1869-72. Nothing came of this movement until 1879, when the government of Madras secured the passage of an act "To provide for the protection of game

and acclimatized fish in the district of the Nilgiris." The area thus protected comprised a vast mountain range with an approximate area of 725 square miles and supporting, in 1881, a population of about 91,000 persons, of which less than 2,000 were Europeans. In 1881, at the suggestion of Surgeon-General G. Bidie, the government of Madras sought to extend similar protection to birds other than game, and especially to such species as were killed for their plumage; but the proposal was not regarded with favor by the government of India. In the same year the government of Bombay endeavored to secure sanction of a bill to protect nine species of game birds and such other species as were used for food; but this was also vetoed "on the grounds that the public interests involved did not appear sufficiently strong to warrant interference with the habits of the rural population, in the manner contemplated." Three years later another local government was refused permission to impose a tax of five rupees on every bird and hare brought into Kasauli, a Punjab station, during the close season, ostensibly because the tax could not be legally imposed.

Meanwhile, in July, 1884, the East India Association, of London, became interested in bird protection and brought the subject to the attention of the government of India. This movement finally resulted in the passage, in October, 1887, of 'The Wild Birds' Protection Act,' which still remains in force. This act contains four sections with a number of provisions, among which may be mentioned the following: (Sec. 1) The Act extends to the whole of British India; (Sec. 2) The term 'Wild Birds' includes the Peacock and every bird of game; (Sec. 3) Local governments may make rules for the territory under their administration, defining a wild bird, defining the breeding season for each species, and prohibiting possession or sale during the breeding season, or the importation of the plumage of any wild bird during such season; violations of the rules to be punished by a fine (not exceeding five rupees for a first offense and ten rupees for a second offense) for each bird, and confisca-

* Based mainly on publications of the English Society for the Protection of Birds. See Leaflets No. 36, 'India and her Wild Birds,' by Sir Charles Lawson; No. 37, 'The Protection of Wild Birds in India,' by Surgeon-General G. Bidie; Annual Reports for 1900 and 1901. Copies of these publications may be obtained through the Hon. Secretary of the Society, Mrs. F. E. Emon, 3 Hanover Square, London, W.

tion of such bird or plumage; (Sec. 4) Local governments may extend the protection of the Act to 'any animals of game other than birds.'

In order to promote bird protection and arouse more general interest in the subject, four branches of the English Society for the Protection of Birds have been established in India. These branches (beginning with the main one) have been formed in the following cities: Lucknow, 1900 (secretary, W. Jesse, La Martinière College); Bombay, 1899 (secretary, E. Comber); Junagad, Gujarat, 1899 (secretary, Labhshanker Laxmidas); and Colombo, Ceylon, 1895 (secretary, S. G. A. Julius). Through the efforts of these organizations, and through appeals made to the Viceroy, Lord Curzon, the government of India was induced to issue a circular in August, 1900, addressed to the local governments, inviting attention to the Wild Birds' Protection Act of 1887, and requesting information as to the plumage trade, and the destruction of wild birds, particularly insectivorous species. In 1901 the Society was instrumental in securing new regulations for the protection of Egrets and Herons throughout Burma. Under these regulations killing from April 15 to October 31 is prohibited, and the possession of recently captured Herons or the importation of plumage during the breeding season is forbidden.

In 1902 an important step in advance was made by the government by the issue of the following order, which appeared in the 'Gazette of India' of September 20, and which we quote as it was published in a letter by Henry Beauchamp to the 'London Field' for October 18, 1902:

"SIR: You were kind enough to publish a contribution from me on this subject a few months ago. A step has now been taken by Lord Curzon's Government which will go a long way towards protecting birds in India from indiscriminate slaughter for the sake of their skins and feathers. It is contained in the following notification in the 'Gazette of India' of September 20:

"In exercise of the power conferred by Section 19 of the Sea Custom Act, 1878 (viii. of 1878), the Governor-General in Council

is pleased to prohibit the taking by sea or by land out of British India of skins and feathers of all birds other than domestic birds, except (a) feathers of ostriches and (b) skins and feathers exported bona fide as specimens illustrative of natural history.'

"By this very simple measure the Government of India has put an effectual stop on the export trade in birds' feathers and skins; and it is solely the export trade which encourages slaughter, the demand for skins and feathers in India itself being practically nil. One of the most curious features of this particular trade hitherto has been the enormous export of gay-plumaged birds' skins to the Straits and to China, where they are made into festival robes for use by rich Chinamen. This will now be effectually prevented. Indeed, as regards the whole question generally, I cannot help thinking that the Government of India has hit upon the simplest, easiest and most effective of all devices, and that there will now be no need for a Wild Birds' Protection Act, for, generally speaking, the natives of India do not kill wild birds 'for the pot.'—HENRY BEAUCHAMP, *Madras*, September 25."

Although the natives as a rule do not kill birds, in most cantonments and municipal towns a few men called shikarees earn a living by killing game and other birds for sale. These shikarees rely chiefly on snares, bird-lime, and nets, to capture their game, and they often travel long distances on foot or by rail to reach places where birds are abundant. As the destruction of birds, especially of those killed for the sake of their plumage, is due chiefly to the demands of foreign trade, it is hoped that the non-export order, in connection with other existing laws and orders, will exert a potent influence in preserving the native species.

Reports of Societies

North Carolina Audubon Society

The North Carolina Audubon Society has been in existence for nearly ten months and is gradually getting its forces together into a complete and substantial organiza-

tion. The society was organized on March 11, 1902, at the State Normal and Industrial College at Greensboro. It has since been incorporated under the laws of the state as the North Carolina Audubon Society, for the study of birds and the preservation of game. Thus the object of the Society is twofold: the protection of our song-birds and the better enforcement of such game regulations as we now have. An attempt is being pushed to secure better legislation in both these directions.

The officers of the Society are: President, J. Y. Joyner, state superintendent of public Instruction, Raleigh; vice-president, Mr. W. H. Blair, president of the Peoples' National Bank, Winston-Salem; secretary, T. G. Pearson, Greensboro; and treasurer, R. N. Wilson, Guilford College.

There are four classes of membership. Regular members, at a fee of twenty-five cents annually, number at present about three hundred; junior members, who pay ten cents annually, amount to five hundred. There are, besides, nearly fifty honorary life members and sustaining members. The life members come in on a single payment of \$10, while the sustaining members support the Society to the extent of \$5 each, annually. That the membership continually increases is due to the enthusiastic efforts of Mr. Pearson, the present secretary, to whom the Society owes its organization, and who has from the first given it a large share of his time and thought.

There are branch societies in a number of the city schools of the state, and a canvass of all the schools is to be undertaken in time. It is proposed to put circulating libraries of bird books into the rural schools of the state wherever it can be done. A considerable amount of literature in the form of leaflets has been sent out, giving statistics and general information about birds. Classification blanks and note-books as aids to bird-study have also been distributed. We are glad to report that the business men of the state, and especially the sportsmen, are becoming interested, and we hope to have more to report later.—R. N. WILSON, *Treasurer*.

After further interesting and helpful dis-

cussion of various phases of Audubon work, the committee adjourned, subject to the call of the chairman.

First Annual Report of the Audubon Society of Vermont

The first annual meeting of our Society was held October 3.

During the year regular meetings have been held on the first Monday of each month. The meetings have been well attended and the programs both varied and interesting. Meetings of the Executive Board have been held after the regular meetings, and whenever called to consider and act on the business of the Society.

In February, special meetings were arranged for the junior members, to be held Wednesday afternoons once a month. The school committee gave the use of certain school rooms for the purpose. The meetings have been very successful, and we now have a large junior membership. A number of bird walks have been taken during the summer. They have been very delightful excursions for those who could attend them. Our local work has been very satisfactory, and we feel that it has created much interest in bird-study in our town. Many people have remarked that birds have increased in this vicinity since the organization of the Society.

Two traveling libraries, of nine volumes each, have been secured; some of the books being donated, the others purchased. These libraries have been sent out to the district schools in the town, giving much pleasure and stimulating interest in birds and all nature-study.

Our constitution and by-laws have been printed, and we have sent out copies of them, together with leaflets obtained from the Massachusetts and New Hampshire Audubon societies. Our state laws for the protection of birds are very good, and there is a general interest felt in the protection of song- as well as game-birds in this part of the state. We have formed two branch societies, one in Putney, the other in Williamsville, and have made efforts to form others throughout the state. We hope the influence of our

Society will increase and that it will accomplish something in the important work of protecting our native birds.

MRS. F. K. BARROWS, *Secretary*.

October 21, 1902.

Annual Report of the Connecticut Society

At the fourth annual meeting of the Connecticut Audubon Society, held in Stamford, on May 25, 1901, Mr. C. D. Hine, Secretary of the State Board of Education, addressed the audience on the educational value of bird-study. Following out the thought given us by Mr. Hine, at this meeting, the Executive Committee have worked together on educational lines during the past year, seeking to have the children in the schools taught the high value of nature- and bird-study, leading them to the thoughts of high minds, training them in right thinking, and bringing them to right impulse of doing, in the protection of birds, and in general humanity.

The Society now distributes to schools and village libraries, through the Board of Education, eighteen libraries of books on birds and nature, thirty-eight sets of bird charts, and three illustrated lectures.

The Board of Education asks us for 100 libraries, and a chart for every public school in the state, saying that all could be well used. It is our wish this year to raise money to purchase these books and charts. During the past seventeen months the Executive Committee have held thirteen meetings to transact the business of the Society. The membership of the Society has been increased by ten adult members, fifteen teachers, 690 junior members, and 3,637 associate members,—a total of 4,352. The associate members are children who do not pay a fee and do not receive a certificate, but who sign a pledge to protect birds, and who receive an Audubon button. You will notice that the majority of the new members are children, and you will then see the result of the work which has been done in schools by the teachers, and through our local secretaries. We have local secretaries in thirty-seven towns in the state. Reports

have been received from twenty of them, and they tell of such great interest in this work among the children, and such a desire to keep the bird charts permanently in the schools.

Quoting from some of these reports, one says, "The intelligence in regard to birds grows each year, and even the Crow has his friends." From Madison, Conn., we hear that "interest in bird song has been kept up and increased so much that, as regards work in the schools, there are almost literally no more worlds to conquer; our teachers all being members of the Audubon Society and enthusiastic bird students, the efforts of the local secretary are not required to arouse interest among the young people. She is, however, sure of a welcome and an eager response when she drops in at some district school to ask a few questions about nests and rare feathered visitors. In most of the schools, the smallest child knows from fifty to one hundred birds, while not the roughest boy in Madison now dreams of molesting a nest of eggs or young; with the result that never before has our village been so thronged with tuneful neighbors. The birds may be said to have conquered Madison."

In Stamford the local secretary presented two libraries to the different schools. She says: "Principal, teachers and scholars alike forward in every way Audubon work by their enthusiasm and earnestness, the result being 1,476 new junior or associate members." Our Hartford secretary says, "If people only knew what a pleasure it is to talk to the enthusiastic little children, more would go to work in the public schools. The path is all smoothed for us by the very charming principals and teachers; and the children themselves do half the talking, and would do it all, if one did not want a little say one's self."

Added to this educational work, the Society has posted the state game laws in forty towns, in all express offices, and in one hundred and twenty-six summer hotels, and is now contemplating putting them in saloons, thinking that some would see them in that way who would not perhaps notice them elsewhere. Respectfully submitted,

HELEN W. GLOVER, *Secretary*.



BLUEBIRD AT NEST

Photographed from nature by A. L. Princehorn, Glen Island, N. Y.

Bird = Lore

A BI-MONTHLY MAGAZINE
DEVOTED TO THE STUDY AND PROTECTION OF BIRDS

OFFICIAL ORGAN OF THE AUDUBON SOCIETIES

Vol. V

MARCH — APRIL, 1903

No. 2

A Sierra Nighthawk Family

BY FLORENCE MERRIAM BAILEY

NEAR our camp on the crest of the Sierra Nevada above Donner Lake, when moving our pack-train from one of the narrow streaks of grass between the timber and rock of the summit across a bare granite ridge to another patch of feed, we happened on a family of Nighthawks. The two old birds had been seen here before, beaten back by the wind which swept fiercely over the bleak northern ridge; and now, as we crossed a shelf of rock and gravel, with only here and there a lone pine or hemlock, the brooding bird sprang from under the bell-mare's feet, trailing off in distress.

At first sight she looked as big as a Grouse, and when second glance proved her a Nighthawk I was puzzled to tell what there was about her trailing to give the curious effect of height. Hurrying my horse down, and leaving him with the rest of the bunch, I came back to study her at leisure. As I approached, she promptly started up again. In the suddenness of her spring and the confusion of her fluttering she appeared to be walking on the tips of her wings; but in reality, as she raised her body on her long pinions, she dropped her tail straight down, keeping it down while she trailed, in that way giving height to her figure. When she lit she simulated the wounded bird better than any I have ever seen decoy, fairly flopping down as if her feet had been amputated, and fluttering her wings in utter helplessness.

She lit on a flat granite surface, and her streaks and mottlings matched the markings of the rock so well that at a little distance only her white wing-spot caught the eye; but she let me come so near that I could see her white superciliary, creamy throat-patch, wide flat head and reticent mouth.

After hunting vainly over the rocks and gravel for some time, I discovered a piece of egg-shell, its faint greenish ground color almost hidden by specks of brown; but, after diligent search, I went back to camp without finding the former occupant of the shell.

The next day the horse rustler reported that he had taken the horses over the granite ridge again, and that this time the brooding bird had let him pass within two feet of her without rising. If she were getting as stoical as that she ought to sit well for her picture; so, taking the camera, we started for the granite knob. A strange nesting site it surely would have been for any other bird, but it was perfectly characteristic for a Nighthawk's choice,— bare and open under the heavens.

This time the old bird was sitting, with her two young beside her, at the foot of a piece of gray granite in a ring of stones, which they matched perfectly, their plumage reproducing both the black specking



THE OLD NIGHTHAWK

Photographed from nature. (From the Biological Survey)

and the brown weathering of the granite. It was hard to see the birds even without concealing vegetation, for, besides the disguise of their coloring, they sat on the gravel close to the rocks and against a couple of the long cones of *Pinus monticola*. They crouched so close and shut their eyes so tight that they suggested horned toads with wide, flat bodies and slits for eyes.

A number of snap-shots were made of the three birds at ten and then at seven feet without disturbing them, and when the mother had flown other photographs were taken of the young alone. To get a better view, I took up one of the little fellows, and he sat quietly in my hand till his picture was taken, when he and his brother woke up to their alarming situation and ran off in opposite directions.

They wobbled like Owls on their weak little feet, raising their wings to steady themselves. When I went to catch one of them he tripped over a pine-cone, and rolled over and over like a ball of feathers till I was afraid he would fall off the cliff. The other youngster, when nearly caught, opened wide his big mouth and hissed, throwing up his long wings threateningly in a way that might well have frightened a saucy chipmunk.

The distracted mother, after trailing, had thrown herself prone upon the ground, with wings outstretched by her side; but when I put my hand over the little one and it gave a frightened cry she raised her head high, and, as I came closer, trailed again in distress.

The youngster's agitation was of much shorter duration. In fact, he apparently went to sleep in my hand, and when put down ran only a few feet, then stopped, shut his eyes and promptly dropped asleep, looking like a round stone on the sand.

The third day after I found them, the little tots were trotting over the rough ground fairly well, by holding their white-spotted wings outspread for balance.

The old birds never fed them while I was watching in the daytime, so, remembering their crepuscular habits, we went to visit them just after sunset. Both old birds were away when we got there, and the young were not by the pine-cones this time, either; but as we turned to look for them something stirred almost under our feet, and there they were, sitting side by side on the ground. We hurried by to a boulder from behind which we hoped to watch them unobserved, and had not waited long when the mother flew in over the rocks. To our chagrin, she discovered us instantly, passed right by over the youngsters' heads, and, after flying around, lit on a rock and sat silently facing us, looking like a most unbird-like black stone in the dim light.

After a little she flew down to the ground nearer the young, calling them with a low, soft *chuck, chuck*. They raised their heads and answered with their odd little hissing note and started toward her, half running and half flying. On reaching her they stretched out their necks, and she opened her capacious bill and fed them with what seemed unnecessary violence, for, as my husband explained in an undertone, the crop is close under the bill—he had once found one filled with live, squirming insects.

When the mother had flown, the male came, discovered us, gave a sharp *peent, peent*, and circled around, hovering close to inspect us. The young were fed once more while we stayed; but this time it was so dark we could barely see them through the glass, so we rose from our hiding-place and carefully made our way down over the boulders to camp.



COOTS IN WESTLAKE PARK, LOS ANGELES



GULLS ON SANTA CATALINA ISLAND

TWO VIEWS OF CALIFORNIA BIRD-LIFE

Photographed from nature by John Rowley

A Family of Barn Owls

BY THOMAS H. JACKSON, West Chester, Pa.

With photographs from nature by the author

OWLS, as well as other birds, are largely influenced in the choice of nesting sites by the nature of their surroundings.

The Barn Owl in many parts of the country nests in holes in the banks of water-courses or ravines; or, where ruined and deserted buildings are accessible, such places are often used in which to rear their young.

Here in eastern Pennsylvania, where the Barn Owl is generally quite an uncommon resident, only a single nest has come under the personal notice of the writer, and it was in the hollow of a large tree.



BARN OWLS, ABOUT THREE WEEKS OLD.

Early in May, 1902, I found a nest of this species containing six eggs, one on the point of hatching. The site was a large cavity in a red maple tree about twenty feet from the ground, and just beside a stream in the midst of a large tract of swamp land—an ideal spot for meadow-mice and other food that go to make up the menu of these birds.

A visit to the tree one week later found five young birds and one egg in the nest, the young birds differing much in size.

The female was at home on this occasion and made a fine display of temper.

There was no semblance of a nest other than the rotten wood and some rubbish, made up largely of broken pellets and a few feathers, the former revealing the bones and hair of meadow-mice. The young at this date, May 11, had not opened their eyes.



BARN OWL, ABOUT FIVE WEEKS OLD

About three weeks later, May 30, another visit found only three young Owls at home. Two of these, as shown in the accompanying photograph, were much larger than the other,—doubtless due to the interval in hatching.

Their eyes were open, and they made a loud, hissing noise when disturbed, but gave no sign of fear or anger at this age.

They were entirely covered with a yellowish down, and had more the appearance of young Vultures than Owls, owing to the great apparent length of head and beak.

My next and last visit to the nest was made June 14, and in the interim the young Owls—now only two in number—had made much progress toward maturity. The facial disks were well formed, and the wing- and tail-feathers had begun to appear, although they still retained their downy coats. In disposition the change they had made was equally

marked, for they fought desperately with beak and talons in their protest against being photographed.

It would be a matter of great satisfaction to see the Barn Owl become an abundant resident here, independent of its great usefulness to the community; but, as long as nearly every owner of a gun looks upon any wild bird as legitimate game, there is little hope of any increase among our feathered friends.



BARN OWLS, ABOUT FIVE WEEKS OLD

Questions for Bird Students

III

12. What Sparrows may be expected to reach Portland, Conn., from April 1-10?
13. What Warblers are due at Oberlin, Ohio, from May 1-10?
14. What migrants should visit Central Park, New York City, in April?
15. How many species of birds have been noted by a single observer in one May day in southern New Jersey?
16. How many birds have been recorded from within a radius of eight miles of Wellesley College, Mass?

Correct answers to the first series of questions have been received from Ruth Galpin, A. A. Saunders and Frederick J. Stupp; and to the second series of questions from Ruth Galpin.

The Heath Hen in New Jersey

In preparing a report on the game-birds of New Jersey for the game commission of that state, the editor of *BIRD - LORE* recently visited Barnegat, N. J., to secure from professional gunners there information in regard to the game-birds of the region. In discussing the status of the Ruffed Grouse, Mr. George H. Van Note spoke of a "Grouse" which was said to be common west of Barnegat "about thirty years ago." The identity of the bird was not suspected at the time; but later, on referring to Mr. Stone's excellent '*Birds of Eastern Pennsylvania and New Jersey*,' it was learned that Turnbull, writing of the Heath Hen in 1869, said, "Now very rare. A few are still met with in Monroe and Northampton counties, Pennsylvania, where I have shot the species. Within the last year or two it has also been found on the Jersey Plains." ('*Birds of Eastern Pennsylvania and New Jersey*,' p. 27.)

Both date and locality given in the last sentence quoted agreed with the information received from Mr. Van Note, who, in response to a request, wrote the following exceedingly interesting letter, adding more to our knowledge of the Heath Hen in New Jersey than was previously recorded, and rendering plain the cause of its extinction. It will be remembered that the Heath Hen is now confined to the island of Martha's Vineyard, and that it became extinct on Long Island as early as 1844 (see Giraud's '*Birds of Long Island*,' p. 195).

MR. VAN NOTE'S LETTER

BARNEGAT, January 31, 1903.

MR. FRANK M. CHAPMAN:

Dear Sir:—I have been away from home. On my return, I find your letter, and will answer it by saying that the Grouse you speak of were the color of a Quail. The male bird had a top knot and some long feathers under his throat, in which there was a pouch that he would fill with wind and blow, which could be heard for two or three miles. The noise was like that of a man blowing in a conch-shell, and was a means of calling other birds to it. They were as large as a Guinea Hen. They would have several places to collect; generally a clear place on the Plains. When together, the male bird would start around with his wings on the ground, like a Turkey gobbler, giving a sort of a whistle. When flying they would raise ten to twelve feet high and go straight as a line. They bred on the plains, and were always found on them. There were lots of them forty years ago. The way they killed them at that time was to dig a hole in the ground and remove all the sand, so as to make the ground level, then hide in this hole until they came to you. If you

killed one the others would stay and fight it, and you could keep on shooting until you killed as many as you liked. If you missed the first shot they would fly away. This kind of gunning went on until about thirty years ago. There were lots of them left, plenty of deer and other game, until the gunners from the cities heard of it. They gunned in all seasons, and soon killed them off. Since that time there has not been a Grouse killed on our Plains. I have seen five deer in one look, and now there is not one left in Burlington or Ocean county. These Plains I speak of are twelve miles west of Barnegat. There are several hundred acres in each and they are about three miles apart, with swamps and woods between them. The Plains are covered with small pines about three feet high. All through them there is a little vine that bears red berries about the size of a cranberry and keeps sound and good the year round. It is called the grouse berry. This berry the Grouse lived on in winter. In summer they lived on tea-berry and others.

Yours respectfully,

GEORGE H. VAN NOTE.



HEATH HEN

From a mounted specimen in the American Museum of Natural History

Nesting of the Ruby-crowned Kinglet

BY ANNA HEAD

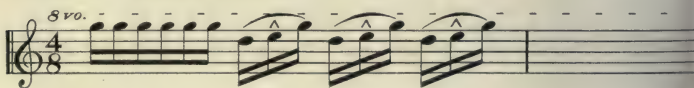
ON the edge of a Sierra meadow, on the shore of Lake Tahoe, there is a grove of tamarack trees, growing in very open order.

The roots remain submerged until July. As the water that has flooded the meadow subsides, a growth of lush grass and mosses, starred with dwarf mimulus, violet and strawberry blossoms, covers the ground, and later the spikes of the white orchid and quaint elephant-heads appear. Here the bird-lover will do well to spend many hours, in spite of, or perhaps it would be truer to say, because of, the swarms of gnats, flies and mosquitoes that find here a congenial breeding-place. Attracted by these are several species of Flycatchers, Arctic Bluebirds, Wrens and all the host of insect-feeders. The dead and dying trees furnish food and house-room for several kinds of Woodpeckers, while Blackbirds and Robins forage in the rich soil at their feet.

One bright morning in the middle of July I was seated on a warm, soft tuft of moss, at the foot of a tamarack tree, watching the assiduous attentions of a pair of Sierra Sapsuckers, whose rich red breasts and heads made them a conspicuous mark as they fearlessly came and went to the hole near the top of a bare tamarack pole, where their young kept up their weird, incessant chant, rising and falling like the wind in a knot-hole. Soon my attention was attracted by a mite of a bird which kept hopping about me in a circle, often coming as near as five feet, and uttering a cry of distress which sounded like "Quilp! quilp!" or "Help! help!" as I soon interpreted it.

"Evidently some one else has a nest close by," I said, and began searching the tree under which I sat, but without success. So I sat down again to watch. The little fellow was worth watching,—a neat, graceful little figure, not over four inches long, with olive-green back, whitish wing-bars, pale gray under-parts, and a white ring about the eye, which increased its apparent size. As he clung to a twig head downward, I could plainly see the flaming crown of the Ruby-crowned Kinglet.

My motionless attitude partially reassured him, and soon he went to another tree and sang out clearly his song, consisting of a prelude of rapid high notes, followed by a group of three triplets, which seemed to say, "Too many, too many, too many!" The tone is surprisingly full and penetrating for so small a bird, and the quality is indescribably sweet. I have made an attempt at a musical notation.



From the song I at once recognized a tiny bird which I had heard singing high in a live-oak last winter near Santa Barbara. How pleasant to find him again in his chosen home!

He was soon joined by his little mate, colored exactly like himself, but lacking the flaming crown-ornament, and much quieter in her ways. Often I saw them with insects, and thought they would surely carry them to the nest, but I had long to wait before they quite overcame their timidity. Finally they both flitted to a tree from which a branch covered with thick twigs and tufts of pine needles hung down within about ten feet of the ground, somewhat in the form of a basket. The female stayed there a long time, with a big moth in her beak. This, however, did not at all interfere with her articulation, for she continued to call "Help! help!" and "a-tittup! a-tittup!" as well as if her mouth was empty. Finally she made a quick and noiseless dive into the hanging basket, and slipped away without the moth.

There was the nest, well hidden among the twigs, which made the greater part of the framework. Among these were loosely stuffed and woven a great mass of green moss and dried grasses and seeds. The outside dimensions were six by five inches. It could hardly be called pensile, as it depended so much for support on the twigs. When taken down after the little ones had no further use for it, it proved to be warmly lined with a pint or more of feathers of all sorts. Among these I recognized many of the Red-shafted Flicker, Blackbirds, Grouse, Purple Finch and Blue Jays. I was glad to see that they had some trophies of their enemy, for never a morning passed that the brave little father did not have to attack and drive away one of these marauders,—not from the immediate neighborhood of the nest, for he was never allowed to get near it, but from the very edge of the glade. This tiny bird effectually policed the whole bird city, and must have saved the other birds much trouble. Surely he proved his right to the name of Kinglet.

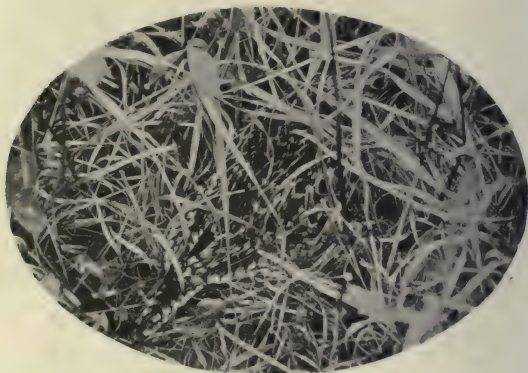
The spring was very late this year. Snow fell on the first of June, so it was not surprising that the young were only just hatched on July 13. Day by day I watched the busy little parents, till they grew quite familiar, though they were always anxious if I came nearer than within ten yards of the nest tree. They were busy every minute feeding with tiny flies, moths and small green caterpillars their numerous brood. I never succeeded in counting them, for the nest was quite inaccessible, but when I saw them, on July 21, dispersed among the pine saplings, I did not wonder at the father's song, "Too many, too many, too many!" Now that his brood had escaped the prowling Jay and chipmunk, and had safely slipped out of their frail nest and divided the risk, since all his eggs were no longer in one basket, the little man seemed somewhat less anxious. He was less inclined to fight with all the world, and carried his responsibilities somewhat more lightly. He still came close

up to me and looked me in the eye, as if to intimidate me, while he exclaimed "a-tittup! a-tittup!" but soon disappeared and either fed his brood silently or led their uncertain flight from sapling to sapling.

The young have an odd appearance of being larger than the parents, owing to the plumage being fluffy and not so neatly preened as in the neat, alert older bird. They are of a light gray, more like a Bush-tit with short tail, and lack the flame-colored crown-ornament of the male and the greenish shade that distinguishes both older birds. Their note is the finest, most needle-like chirp imaginable; and it was no longer a wonder that I could not hear it while they were still in the nest. Following this sound, I distinctly saw one only a few feet above me. His mother came and fed him silently, with as much unconcern as if I had been far away.

I returned to the nest and chopped down the tree, hoping to take the nest home. I found it too loosely built and too dependent upon many growing twigs of the tree to be removed, and the whole limb was too bulky. I was rewarded for my pains, however, by finding a perfect little egg, which was so well protected by the mass of feathers that it did not break when the tree crashed to the ground. This egg appeared rather of a cream-color than a buff, and had no distinguishable spots, though the texture seemed somewhat granular. It was decidedly pointed at one end and very broad at the other, measuring .55 x .47.

Early on the morning of August 3, I heard again the high musical song of the male. The fine insect-like chatter of the young was all about me in the boughs that formed my shelter, so I knew that the family was still keeping together and gaining strength for their long journey to the south, where I hope to meet them again next winter.



BARTRAM'S PLOVER ON NEST

Photographed from nature by J. E. Seebold, at Carlisle, Pa. May 25-June 1, 1902



OSPREY TEARING FISH



OSPREY WITH FISH

Two pictures by Ernest Harold Baynes of an Osprey which he had reared and so tamed that it returned to his home when released several miles away.

For Teachers and Students

How to Study Birds

THE NESTING SEASON

BY FRANK M. CHAPMAN

THIRD PAPER

The first evidence of the near approach of the nesting time among birds is furnished by the phenomena of the mating season. *Mating* Chief among these are song, and the sounds produced in various ways which take the place of song, display of plumage, fighting, dancing, and the numerous peculiar evolutions through which birds give vent to their feelings at this period when their physical vigor is at its height.

As a rule, these exhibitions are given only by the male; and the question at issue is, are they simply expressions of the intense vitality of the season, or are they designed to attract the attention of the female, and thus aid the bird to win a mate? There is a wide field for study here; in fact, so few really satisfactory observations on the mating habits of wild birds exist that no conclusive explanations of the origin of their customs and costumes have been advanced.

Song is undoubtedly a means of announcing a bird's presence, and¹ it is also a challenge, as well as a reply, to a rival. Nothing so stimulates song as song. The crowing of cocks admirably illustrates this. While singing continues after a mate has been secured, is not song ever addressed directly to the female? Are there never song contests among males, with a near-by, attentive female for the prize?

In fighting for a mate, action and cause are so closely related that the development of spurs, for instance, is generally attributed to that form of natural selection which brings success to the strongest, best-equipped fighter and enables it to transmit its own desirable characters to its offspring. This, however, is a matter primarily to be settled by the males. Two or more males meet, battle, and the victor gets the prize of a mate; but whether the mate has any voice in the matter is unknown. Consequently, in those more peaceful forms of sexual activity when rival males attempt to outdo each other through display of plumage, naturalists are not agreed whether these exhibitions are designed to please the female,—who presumably would then select the most attractive performer,—or whether they are only a relief or outward expression to the emotions of the mating season.

Opportunities to make observations bearing on these questions are not

only infrequent, but the observations themselves are apt to be inconclusive or susceptible of more than one interpretation.

As an excellent species on which to conduct a series of observations during the mating season, the student is commended to the English Sparrow. What significance have its battles, struttings and general vociferousness when it is mating?

THE NEST

Probably less than twenty, possibly not more than ten, per cent of the eggs laid by birds bring forth chicks which reach maturity. So great, therefore, is the mortality among birds during nesting time that the continued existence of a species depends largely upon the degree of success with which it encounters the enemies of the young bird in the egg or in the nest.

It will add to our appreciation of birds' resources, and most assuredly to our sympathy with bird-life, if, before studying the nest and nesting habits of birds, we merely mention some of the enemies and dangers which threaten birds at this season. They are of two kinds: First, the elements; second, predatory animals, including parasites.

High winds, heavy rains, floods, hail-storms, excessive heat, are among the weather phenomena often fatal to the life of the nest; while, in this region, chief among the animals that prey upon birds' eggs, or young birds, are Crows, Jays, cats, squirrels, opossums, minks, weasels, skunks, snakes, and man, who either directly, as an egg collector for the table or cabinet, or indirectly, in mowing fields or otherwise altering birds' nesting haunts, has more than won a prominent place among the enemies of the nest.

With such an array of adverse conditions and relentless foes the bird who lives to acquire the powers of adults of his kind may be said to have escaped nine-tenths of the dangers to which bird-flesh is heir. One realizes, therefore, how important it is for birds to select a site, build a nest, and care for their young in a way which has proved to be most desirable for their species; and how readily lack of instinct or inability to conform to new conditions may mean failure to rear a brood and, in the end, extinction of their race.

The nature of a bird's nesting site appears to be determined by (1) the necessity for protection; (2) habit, whether arboreal, terrestrial or aquatic; (3) haunt, whether in woodland, field, marsh, etc.; (4) temperament, whether social or solitary; (5) conditions of the young at birth.

Protection may be secured by hiding the nest, by placing it in more

or less inaccessible locations, in trees or on cliffs, or by frequenting some isolated island not inhabited by predatory animals.

Habit frequently influences the character of the situation in which the nest is placed. Thus it is customary for arboreal birds to nest in trees, and for terrestrial ones to nest on the ground. There are, however, exceptions to this rule. For example, Herons, Spoon-bills and Ibises are terrestrial, in feeding habits at least, but their nests are usually placed in bushes or trees. Here the helpless condition of the young at birth requires a well-formed nest built in a more or less inaccessible situation. Again, the Nighthawk is, in feeding habit, a bird of the air, but the eggs are laid on the ground, the præcocial young apparently not requiring the shelter of a nest. With the Ducks that nest in holes in trees, sometimes forty feet or more from the ground, the reason for departure from the type of site chosen by the larger number of their family is less evident.

It is to be expected that the character of a bird's haunts should be reflected in its nesting site; and, as a result, we have some most interesting variations in site among birds of the same family but of different haunts. Hawks, for example, are usually wood-inhabiting, and the ideal Hawk's-nest is placed in a tree; but the Marsh Hawk builds its nest on the ground, in its marshy haunts. So the Burrowing Owl, of the prairies, nests in holes in the ground; while the wood-haunting members of its family usually select holes in trees. Consequently it follows that, when there is marked variation in the character of a bird's haunts, there is apt to be a corresponding variation in the nature of its nesting site. The Red-winged Blackbirds living in reedy marshes weave their nests to the reed-stems, while those birds of the adjoining alder swamps place their nests in alder bushes. Mourning Doves nest in trees in the east, on the ground in the treeless parts of the west. To one who has been accustomed to see Night Herons' nests in swamp maples sometimes seventy feet from the ground, it is not a little surprising to find the same species building a nest at water-level among the reeds, as it does on the great 'quill-reed' marshes of the west.

While many species show little or no variation in the character of their nesting sites, others place their nests in many and widely different situations even under the same conditions. Robins, for example, aside from nesting in trees at varying heights, place their nests on window-sills, in arbors, summer-houses, or barns, on fence-rails, etc.; and in cases of this kind it is of importance to learn whether those birds which depart from the prevailing type succeed in rearing their young.

On Gardiner's Island, L. I., where there are no predatory animals.

and, with the exception of Crows, practically no bird enemies, Robins build their nests in almost any situation, even on the ground, with equal chances of rearing their young. Here, too, the Fish Hawks nest, not only in trees, but also in the most exposed situations on the beach; and because of the protection afforded by an insular home where the foes of birds are happily absent, their eggs and young are as safe as those of tree-nesting birds.

It is not probable that in instances of this kind certain birds have deliberately or intelligently abandoned the customs of their species; but the tendency to vary, being unchecked, finds expression under conditions where new habits may be successfully formed. Doubtless the same tendency exists in the Fish Hawks nesting on the mainland; but there the struggle for existence is so much more intense that any departure from habit may be attended by disastrous results. Environment is thus the mould in which habit is cast.

Through these generalizations we come to the most practical, definite side of the subject, and ask which bird of the pair chooses the nesting site. With some species it is known to be the male, with some the female, and with others doubtless the situation must be approved by both sexes. Very few exact data on this subject exist, however, and there is here abundant opportunity for original investigation.

The return, year after year, of the same birds to the same nest is a well-established fact, particularly among the birds of prey,—the Fish Hawks being good illustrations. With smaller birds it is more difficult to prove a case of this kind, though there is abundant evidence to show that they return to the same locality and select the same, or nearly the same, nesting site. A pair of Woodthrushes that nest on my lawn select each year a certain maple, and approximately the same limb.

When a second or third brood is reared a new nest is usually built, when it is of interest to compare its site with that chosen for the earlier nest to ascertain how much variation the same individuals may exhibit.

(TO BE CONTINUED)

Death of Thomas McIlwraith

Thomas McIlwraith, a member of BIRD-LORE's Advisory Council, whose portrait appeared in the last issue of this magazine, died at his home in Hamilton, Ontario, in the seventy-ninth year of his age, on January 31, 1903.

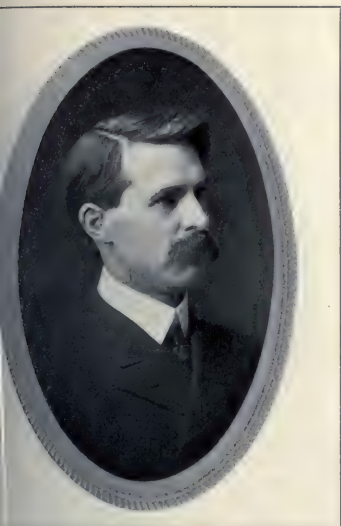
Mr. McIlwraith was born in Newton, Ayr, Scotland, December 25, 1824, and came to Hamilton in 1853. Seven years later he published, in the Canadian Journal, a list of birds which he had observed in the region. This was followed by a more extended list, published in the Proceedings of the Essex Institute for 1866. In 1886 the first edition of his 'Birds of Ontario' appeared, and the second edition of this useful work (1894) is still a standard. Mr. McIlwraith was one of the twenty-five founders of the American Ornithologists' Union.



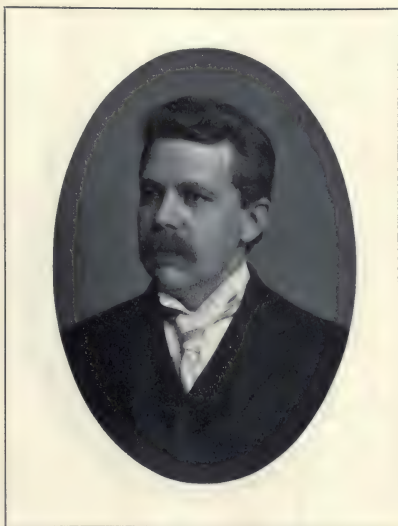
What Bird is This?

Field Description.—Length, 5.25 in. Line in front of crown, band behind ears, line over eye, throat and breast pale yellow, fading into whitish belly; back grayish olive-green streaked with black and whitish, outer tail-feathers, with more or less white; two white wing-bars; sides streaked with black.

NOTE.—Each number of BIRD-LORE will contain a photograph, from specimens in the American Museum of Natural History, of some comparatively little-known bird, or bird in obscure plumage, the name of which will be withheld until the succeeding number of the magazine; it being believed that this method of arousing the student's curiosity will result in impressing the bird's characters upon his mind. The species figured in February is the Saw-whet Owl.



O. G. LIBBY, *North Dakota*



W. B. BARROWS, *Michigan*



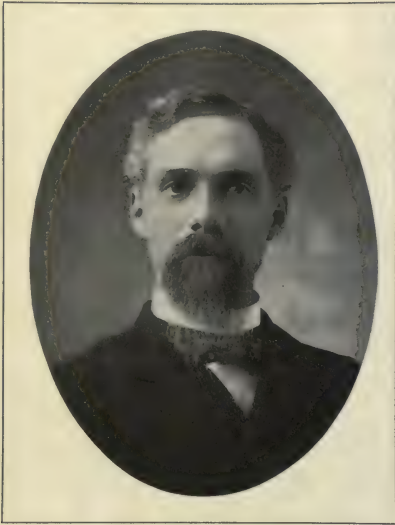
W. CLYDE TODD, *Western Pennsylvania*



H. NEHRLING, *Wisconsin*

BIRD-LORE'S ADVISORY COUNCILORS

THIRD SERIES



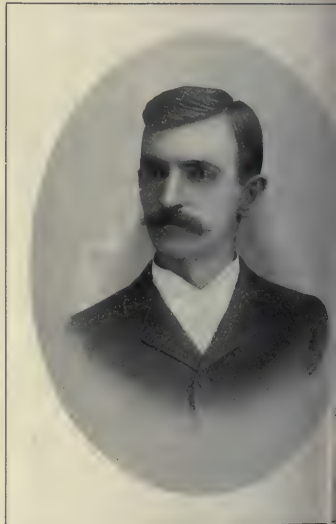
W. W. COOKE, *Indian Territory*



CHARLES KEELER, *California*



E. H. BARBOUR, *Nebraska*



M. J. ELROD, *Montana*

Notes from Field and Study

A Swimming Crow

On the 17th of May of last year I visited a locality about a dozen miles from Boston which is a specially interesting one, both botanically and ornithologically—one of those swamps which form Canadian islands in our Transition fauna and flora—but the strangest thing I saw that day was not connected with any of the rare birds or plants which are found there. It was the sight of a Crow going in swimming! It was a sick Crow evidently, and I came upon him just as I was emerging from the wooded swamp out upon an open marsh. He was flapping and floundering his way along the ground toward a brook which separates the meadow from the woods, and as I approached he reached the dilapidated bridge that crosses the stream, and tumbled, whether accidentally or purposely, from one of its loose timbers into the water. When I got to the bridge I found him afloat in an eddy of the brook about six feet away from me, right side up, but with his head entirely under water and apparently held there deliberately! He kept his head submerged for some time—a full minute, I should say—and I was beginning to think I had met with a case of bird suicide, when he took it out and shook it and floated off into the current. Here he looked like a Duck, sitting up in the water as if entirely at home in that element. As he drifted down stream, he put his head under water again, but this time only for a few seconds. As there is a bend in the brook at this point, the current carried him across to the other side, and he floundered out and up the bank through the bushes into the woods. I could see no injury to his wings—his feet never came into full view—but it was evident that he could neither fly nor walk, and, from his apparent disregard of my presence, it seemed to be a case of sickness. Perhaps he had a bad headache—or perhaps he may have been suffering from the attacks of some parasite. A friend has sug-

gested that the hiding of the head may have been prompted by the desire for concealment, as in the case of the Ostrich and the sand. But why should he have taken to the water in the first place? I cannot help thinking that his bath was an intentional one. At all events, the soaking of the head was deliberate and not due to helplessness or clumsiness. Has any one else had a similar experience?—FRANCIS H. ALLEN, *West Roxbury, Mass.*

Nest-Building Habits of the Chickadee

Although the Chickadee sometimes breeds in the abandoned nests of Woodpeckers, and sometimes deepens and enlarges knot-holes, it more frequently does all the work of excavation itself. For this purpose it usually chooses an old stump, or an upright dead limb so dry and punky that the bark is falling off. The wood must be soft, otherwise the bird's bill is too weak to work in it.

The chips are not flired out upon the ground after the manner of the Downy Woodpecker, but are invariably carried out in the bill to a short distance from the hole and then dropped. Both male and female work together, and appear to share equally in the labor. One enters the hole, remains long enough to gather a billful of wood—usually from ten to thirty seconds—then emerges and flies to some contiguous branch, where it drops the chips. Then it returns to a perch near the hole, or sometimes to the edge of the opening, where it waits for its mate, now inside, to emerge. When the latter pops out, in it goes without a moment's delay. The mate, having similarly disposed of its load of chips, returns in readiness to enter when the other leaves. With brief intermissions this rotation is often kept up for hours at a time. The distance which the birds carry the chips varies, but it is usually only to some convenient twig from twenty-five to seventy-five feet

away. Sometimes both will fly all day to the same place, so that the ground beneath looks as if lightly sprinkled with sawdust. When engaged in this work, they are very bold and will sometimes allow themselves to be photographed without showing any fear.

The Chickadee has also a peculiar habit of beginning nests very early in the spring, which are seldom completed and never occupied. On March 13, 1902, a pair began carrying chips out of a knot-hole and did desultory work there for several days. March 18, 1901, a pair commenced an excavation in a dead limb of an apple tree and finished but did not breed in it, perhaps because of the annoyance caused by House Sparrows. Another pair made and lined a nest in an apple tree within twenty feet of a house, but eventually deserted it. It is common to see a pair do a few hours' work in a knot-hole, where they soon find the wood too hard for them. In a single season I have seen half a dozen nests begun near my residence in this village, none of which were ever occupied for breeding purposes.—
ROSCOE J. WEBB, *Garrettsville, Ohio.*

Snowflakes in Trees

While walking along an old highway in March, 1902, I was attracted by the twitter of Snowflakes which apparently came from a field near by. I stood for several minutes trying to locate them in one of the numerous patches of dried grass where the snow had been blown away, but with no success.

Thinking I might be mistaken, I looked over to the woods beyond the field, and there, perching in the top of a tall red oak, which stood some distance in from the edge, were about one hundred Snowflakes (*Plectrophenax nivalis*). I could hardly believe it at first, as I had always heard that they never perched on trees. There could be no mistake, however, as they flew in a few minutes and alighted in an old corn field, where I was able to approach near enough to clearly distinguish their markings and identify them all as Snowflakes.—LAURENCE J. WEBSTER, *Holderness, N. H.*

California Nature Books

The coming pilgrimage of ornithologists to the Pacific coast prompts us to include several articles and pictures illustrative of California bird-life in this issue of BIRD-LORE.

For the same reason we append a list of books with which visiting ornithologists would do well to provide themselves, as follows: 1. 'Handbook of Birds of Western United States,' 'A-Birding on a Broncho,' FLORENCE MERRIAM BAILEY (Houghton, Mifflin & Company); 2. 'Check-List of California Birds,' JOSEPH GRINNELL (Palo Alto, Calif.); 3. 'Bird Notes Afeld,' CHARLES KEELER (Elder & Shepard, San Francisco); 4. 'The Mountains of California,' JOHN MUIR (The Century Company); 5. 'Mountaineering in the Sierra Nevada,' CLARENCE KING (Charles Scribner's Sons); 6. 'Our National Parks,' JOHN MUIR (Houghton, Mifflin & Company).

The Michigan Ornithological Club

From a circular issued by Bradshaw H. Swales, Secretary-Treasurer, 135 Warren Avenue, E., Detroit, Michigan, we learn that the Michigan Ornithological Club was organized February 13, 1903, and the following officers were elected: President, A. B. Covert, of Ann Arbor; vice-president, Dr. P. E. Moody, of Detroit; secretary-treasurer, Bradshaw H. Swales, of Detroit; editor and business manager, Alex. W. Blain, Jr.

It was decided to publish a quarterly magazine, termed 'The Bulletin of the Michigan Ornithological Club,' after the former club publication. The annual dues were made \$1, including the club organ. A Committee on Bird Protection was appointed.

The object of the club is the advancement of ornithology of the Great Lake region. One of the principal objects will be the compiling of an authentic state list, and, to this end, an observer is needed in every county or at least every section of the state. Very little is known of the birds of many sections of Michigan, and the secretary will be pleased to receive county lists.

Book News and Reviews

NATURE AND THE CAMERA. By A. RAD-CLYFFE DUGMORE. Illustrated by photographs by the author. New York. Doubleday, Page & Co., 1902.

Mr. Dugmore's well-known nature photographs are a sufficient guarantee of his fitness to prepare a manual on methods in nature photography, and he has placed the lesson of his own experience clearly before his readers. There are chapters on the outfit, exposing, developing, etc., photographing birds and their nests, animals, reptiles, insects, fish, trees, shrubs and flowers, all so well illustrated as to show that the author practices what he preaches. Particularly would we call attention to the photograph of the Woodcock facing page 22, which, made with an isochromatic plate and a ray filter, and printed in sepia, is as beautiful and satisfactory a picture of this bird on its nest as we ever expect to see.

The photographs of reptiles, fish, etc., are equally good, and serve to confirm our opinion that Mr. Dugmore is the leading nature photographer in this country. A slip on page 7 makes a decrease of one-half in the diameter of the diaphragm, calls for only twice, instead of four times as long an exposure, and may lead the amateur into difficulty if it be not corrected.—F. M. C.

THE DEVELOPMENT OF COLOR IN THE DEFINITIVE FEATHER. By R. M. STRONG; Bull. Mus. Comp. Zool., xl, No. 3; pp. 146-186, pll. 1-ix, Oct., 1902.

Ornithologists constantly deal with the color of birds' plumage, but the character of the color, whether it be due to pigments, feather-structure or both, are matters to be determined by the histologist and physicist. The ornithologist can describe results, but a determination of the processes which have brought them to pass requires a special training and knowledge of technique, such as few ornithologists possess. It was therefore exceedingly fortunate that Dr. Strong's interest in birds should have led him to devote portions of two years, while working

in the Harvard Zoölogical Laboratory, to a study of the colors of feathers. The results of his labors form a contribution to science of the first importance and are of especial interest to students of birds.

It is not possible at this time to present even an abstract of Dr. Strong's researches, but we may at least state that they not only revealed no evidence of repigmentation of a grown feather or of a change in the color of existing pigment, but induced him to believe that changes of this character are not possible.—F. M. C.

FIELD NOTES ON SOME BAHAMA BIRDS. By J. L. BONHOTE. From the 'Avicultural Magazine,' Vols. VIII and IX. Brighton, England, 1903. 8vo. Pages, 33; plates, 6.

The birds of the Bahamas, so far as specimens are concerned, are well known; but few of the many naturalists who have visited these islands have had Mr. Bonhote's opportunities to study Bahaman birds in their haunts. His 'Field Notes,' therefore, form an acceptable and important contribution to our knowledge of Bahaman bird-life.

Six excellent photographs from nature of birds and birds' nests add not a little to the interest and value of this paper, the picture of the Noddy on its nest being an especially good bit of bird photography.—F. M. C.

A PARTIAL BIBLIOGRAPHY OF THE ECONOMIC RELATIONS OF NORTH AMERICAN BIRDS. By CLARENCE M. WEED. Technical Bulletin, No. 5, New Hampshire College Agricultural Experiment Station, Durham, N. H. 1902. Pages 139-179.

Professor Weed has here brought together a useful collection of titles of publications relating directly or indirectly to the economic relations of North American birds. Beginning with Wilson, in 1808, he has diligently explored the literature of ornithology, entomology, and agriculture for titles bearing on his subject; and many of

those included we do not recall having seen referred to by ornithologists. We note, however, that no reference is made to Aughey's important paper on the 'Food of the Birds of Nebraska' (First Annual Report of the U. S. Ent. Comm., for the Year 1877); to King's extended report on the 'Economic Relations of Wisconsin Birds,' occupying nearly two hundred pages in the Wisconsin Geological Survey for 1882, or to Warren's 'Report on the Birds of Pennsylvania, with Special Reference to the Food Habits,' etc.—F. M. C.

A NATURE WOOING AT ORMOND-BY-THE SEA. By W. S. BLATCHLEY. Nature-Study Publishing Company, Indianapolis. 1902. 12mo. 245 pages, 12 plates, numerous text-cuts, map.

The author's every-day experiences as a field-naturalist interested in plants, insects, shells, reptiles, birds and mammals are here so pleasantly and instructively recounted that his book may be read with both interest and profit. Particularly should it appeal to those in quest of general information concerning the more characteristic phases of animal life in Florida.

Of unusual importance was his discovery of a bone of the great Auk in an Ormond shell heap; a discovery subsequently confirmed by Prof. C. H. Hitchcock (see BIRD-LORE IV, 97).—F. M. C.

THE BIRDS OF WYOMING. BY WILBUR C. KNIGHT. Bull. No. 55, Wyoming Experiment Station, Laramie, Wyo. 8vo. 174 pages, 48 plates.

This Bulletin enumerates the 288 species and subspecies of birds which have been found in Wyoming, discusses their status as Wyoming birds, and, in some instances, their habits and economic value. Forty-eight admirably printed, full-page, half-tone plates, from original drawings by Mr. Frank Bond, figure upward of a hundred species, and add greatly to the educational value of the work, which should have a most stimulating effect on the study of birds in Wyoming. It is to be regretted, however, that the author should be so far behind the times as to consider bird-killing synonymous with bird study.—F. M. C.

The Ornithological Magazines

THE AUK.—'The Auk' for January, 1903, opens with a discussion of 'The A. O. U. Check-List; Its History and its Future' by J. A. Allen. If each priority seeker, not merely content with digging deeper than his predecessor, will only upturn literature down to the bed-rock foundation of 1758, then we may hope for an end of the name changes of the last twenty years. The nomenclatural broth seems to be spoiled by too many inefficient cooks.

E. W. Doran would have reform in 'The Vernacular Names of Birds,' but, as Dr. Allen shows on a later page, reformers have a hard road to travel when current usage blocks the way. Of interest to the general reader is an article by A. W. Anthony, on the 'Migration of Richardson's Grouse.' They advance "by walking up to the tops of the hills and ridges and as invariably flying as near to the top of the next as their gradually descending flight will carry them." Then we have 'Arizona Bird Notes' by H. Brown and 'The Diary of a Cardinal's Nest' by G. F. Harvey, the latter with a half-tone of the nest in a conservatory. The half-tones accompanying E. H. Eaton's account of 'An Epidemic of Roup in the Canandaigua Crow Roost' are suggestive of a battlefield. In 'An Ornithological Visit to Los Coronados Islands, Lower California' we find among the birds mentioned a new insular, full species Song Sparrow, *Melospiza coronatorum*. The conversion of the Spanish word into Latin, as well as the recognition of a new species in an already much confused group, affords food for reflection. There are 'Notes concerning Certain Birds of Long Island, N. Y.,' by W. C. Braislin, among them the capture of *Larus minutus*, thus further establishing its credentials as a North American visitor. The proceedings at the twentieth congress of the A. O. U. are reviewed by the secretary, J. H. Sage; and after the usual 'General Notes,' 'Recent Literature,' etc., there follows as a supplement the 'Report of the A. O. U. Committee on the Protection of North American Birds' by W. Dutcher,

illustrated with two half-tones and two maps.—J. D., Jr.

THE CONDOR.—The leading article of the January number of 'The Condor' is appropriately devoted to a memorial, by Taylor, of Chester Barlow, the founder of the journal, and is illustrated by a portrait as frontispiece. Grinnell follows with an account of his writings, with a list of titles arranged in chronological order. Barlow's literary activity extended over an even decade; and during this period he found time to publish more than fifty articles, besides numerous editorials and short notes. Although he wrote in a style which could be enjoyed by the merest beginner, it is said, with much truth, that his work had a wider influence on scientific ornithology than if he had confined his energies entirely to systematic or philosophic fields.

The general ornithological articles of this number include 'Nesting of the Townsend Solitaire,' by Anthony; 'Nesting of the Abert Towhee,' by Gilman; 'Notes on Pine Siskins,' by Bowles, and the 'Band-tailed Pigeon in San Diego County,' by Sharp. These are followed by numerous short notes, a feature which will be given more prominence in future. Another new feature is a series of portraits of eastern ornithologists, beginning with a portrait and brief sketch of Mr. Robert Ridgway.

'The Condor' begins its fifth volume under new management, Walter K. Fisher taking the editorship and Joseph Grinnell becoming business manager. The journal has a bright future before it, and we wish it success.—T. S. P.

THE WILSON BULLETIN.—In No. 41 of the 'Wilson Bulletin' Lynds Jones gives an account of 'All Day with the Birds' in Plain county, Ohio. On May 7, 1902, in company with two friends, he tramped almost continuously for over fourteen hours through woodland and field, and succeeded in observing 113 species, which exceeds by one entry all previous records for a single day.

Among other noteworthy papers the following may be mentioned: 'Among the Faunas of Asia Minor,' by H. C. Tracy; 'Some Bluebirds, Boxes and Troubles,' by

Frank Bruen; 'Winter Birds,' by Lynds Jones; 'The Cuban Tody,' by J. W. Daniel, Jr.; and 'My Summer Boarders,' by W. J. Mills.

As usual, there is considerable of interest in the departments of general notes and correspondence.—A. K. F.

Book News

ERNEST SETON'S interesting article on The National Zoo at Washington, 'A Study of its Animals in Relation to their Environment,' which originally appeared in 'The Century,' has been re-published by permission of The Century Company and its author in the Smithsonian Report for 1901.

WE understand that the "Author's Autograph Edition" of Dawson's 'Birds of Ohio' is being rapidly subscribed for. Information concerning this work may be had of the Wheaton Publishing Company, 1216 The Hayden, Columbus, Ohio.

THE OUTLOOK COMPANY will issue, this spring, an important work by W. E. D. Scott, giving the results of his long-continued studies of the birds in his aviary and including some most valuable observations on the inheritance of habit.

HOUGHTON, MIFFLIN & CO. announce for early publication 'True Bird Stories,' by Oliver Thorne Miller.

LITTLE, BROWN & CO. have in preparation a one-volume edition of Chamberlain's 'Nuttall,' which will contain all the text and illustrations of the two-volume edition.

BIRD-STUDENTS who are interested in the life-histories of birds will do well to subscribe to 'The Emu,' the organ of the Australian Ornithologists' Union, edited by A. J. Campbell, and published by Walker, May & Company, Melbourne.

MR. E. R. WARREN, of 20 West Caramillo St., Colorado Springs, Colorado, has issued a list of subjects, chiefly birds and mammals, of which he can supply either prints or lantern-slides made from photographs from nature.

Bird-Lore

A Bi-monthly Magazine

Devoted to the Study and Protection of Birds

OFFICIAL ORGAN OF THE AUDUBON SOCIETIES

Edited by FRANK M. CHAPMAN

Published by THE MACMILLAN COMPANY

Vol. V Published April 1, 1903 No. 2

SUBSCRIPTION RATES

Price in the United States, Canada and Mexico twenty cents a number, one dollar a year, postage paid.

Subscriptions may be sent to the Publishers, at Harrisburg, Pennsylvania, or 66 Fifth avenue, New York City.

Price in all countries in the International Postal Union, twenty-five cents a number, one dollar and a quarter a year, postage paid.

COPYRIGHTED, 1903, BY FRANK M. CHAPMAN

Bird-Lore's Motto:

A Bird in the Bush is Worth Two in the Hand

The editor desires to express his gratitude to the many friends whose hearty commendations of BIRD-LORE, on the occasion of its fifth birthday, have indeed been deeply appreciated.

Accepted vs. Rejected Manuscripts

Many of BIRD-LORE's readers are kind enough to send to the editor carefully prepared accounts of their observations afield, for the offer of which we are truly grateful, but many of which, we regret to say, we are compelled to return. Long articles lack of space usually forces us to refuse, but many shorter ones are rejected because, in our opinion, they do not possess sufficient merit to be worthy of publication.

It is not possible to state in each instance why a certain article is not deemed desirable, and we shall therefore attempt to explain here, at least in a general way, the requisites of an acceptable contribution to BIRD-LORE's pages.

While BIRD-LORE does not publish technical papers on systematic ornithology, it nevertheless claims to be a scientific journal. That is, it is devoted to a recognized branch of science and aims to give its

readers (1) original observations possessing scientific value. These may be novel in character or they may confirm previously recorded observations; (2) practical assistance in the study of birds and suggestions as to subjects and methods; (3) general information in regard to recent ornithological publications and editorial discussion of current events and matters of general interest; (4) articles and reports relative to bird protection.

To be more specific, let us examine the contents of the last issue of BIRD-LORE, published before this editorial was thought of. It includes the following articles: (1) 'The Mound-building Birds of Australia,' contains much information in regard to the singular nesting habits of these birds, and is largely based on original observations; (2) 'Making Bird Friends,' description of methods employed in taming wild birds, and a record of the breeding of a pair of Red-breasted Nuthatches which had been tamed the preceding winter; evidence, therefore, that these individuals passed the greater portion of the year, if not the entire year, at one place; (4) 'The Return of the Nuthatch,' the apparent return, as a winter resident in Central Park, New York city, of a White-breasted Nuthatch which had wintered in the same locality two years previously; seeming to show, therefore, that a bird may have a regularly frequented winter as well as summer home; (6) 'The Christmas Bird Census,' returns from over fifty localities of approximately the number of individuals seen under stated conditions. Such records have a general interest and, because of their definiteness, a scientific value. BIRD-LORE would always be willing to publish careful, detailed notes of this kind did space permit. Subjects seven to eleven all fall under the second of our specified headings; that is, they are designed to be of practical assistance to students or to suggest or discuss methods of study; (12) 'Attracting Birds' is both practical and scientific; it contains data on attracting birds as well as definite observations on their habits; (13) 'An Anti-Sparrow Food Shelf,' is of an eminently practical nature. The remainder of

the magazine falls under heads three and four, and consists of reviews, book news, editorials, and the Audubon Department.

Now, on the other hand, let us examine several articles about to be returned to their authors, which do not seem to meet our requirements. The first, describes a 'free lunch counter' and names the birds that come to it. We should be glad to give it space if we had not repeatedly published similar articles, some of them illustrated. (See BIRD-LORE, I, 19, 195; II, 177; III, 18, 74, 202; IV, 90; V, 30.) The second, gives extracts from the note-book of an evidently enthusiastic student. We can readily imagine the pleasure with which the observations recorded were made, but they do not appear to possess either scientific importance or general interest.

The third, records the occurrence of a bird far beyond the known limits of its range. Only a single individual was seen, the observer was not familiar with the species in life, and the incident, if recorded, would ever be open to question. We cannot see, therefore, that science would be the gainer by the publication of this communication, so we return it.

The fourth manuscript treats of 'Our Sparrows.' It describes their plumages and some well-known habits, but contains no original matter nor indeed any information which is not accessible to every one with one or two bird books. It would make an excellent article for almost any other magazine than one devoted to bird-study!

The fifth article records with some detail its author's experience in seeing an albino bird. It is always interesting to see a bird of this nature, but its mere existence is of not the slightest scientific importance. Albinism may occur in any animal and is merely an indication of an abnormal physiological condition. It is due to lack of pigment, and this fact once known, a white Crow is of no more *scientific* interest than a black one. If, however, a white bird should be seen which appeared to be aware of its conspicuousness and was apparently far wilder than other individuals of its species, then we

should have a possible case of cause and effect which would be well worth recording.

Our sixth manuscript is in the nature of a story. The birds are humanized, each being given a name. The author appears to stick to the known facts in the history of the species under consideration, but we feel we are here on dangerous ground. Ernest Seton's success in this manner of presenting natural history lore has tempted many authors to imitate his methods, but the results have in most instances only emphasized the ease with which one steps over the border line of fact into the limitless field of fiction.

The seventh to tenth contributions are in verse. It is to be expected that the emotions excited by an acquaintance with the "world's best minstrels" should seek expression through a poetic medium; but to write rhymes is one thing, to write poetry quite another. In almost every instance we sympathize with the sentiment to which the author would give form but, alas! even the love of birds, inspiring as it is, cannot *make* poets. This subject of form of expression leads us to speak of another kind of manuscript which BIRD-LORE rarely receives and never returns. It may or may not set forth a fact of scientific import; its value lies less in *what* it tells than in *how* it is told. This is the true *literature* of ornithology. Such literature is to be found in the writings of Richard Jefferies and John Burroughs. One sees the bird through the man's subjective interpretation of it in its place in nature. After all, is not this the best type of ornithology which leads us to see birds in nature most clearly and most truly? Is not he the greatest ornithologist who brings to all the people a knowledge of the beauties of bird-life? Even rarer than the poet's gift is this power to write of the living bird with such insight, sympathy and eloquence that even to those who know it best the written word will reveal before-unthought-of charms. But to us all is given the power to observe carefully and record accurately, and in time it may be our fortune to make a valued addition to the world's knowledge if not to the world's literature.—*Englewood, N. J., Feb. 6, 1903.*

The Audubon Societies

*"You cannot with a scalpel find the poet's soul,
Nor yet the wild bird's song."*

Edited by MRS. MABEL OSGOOD WRIGHT (President of the Audubon Society of the State of Connecticut), Fairfield, Conn., to whom all communications relating to the work of the Audubon and other Bird Protective Societies should be addressed. Reports, etc., designed for this department should be sent at least one month prior to the date of publication.

DIRECTORY OF STATE AUDUBON SOCIETIES

With names and addresses of their Secretaries

California.....	MRS. GEORGE S. GAY, Redlands
Colorado.....	MRS. MARTHA A. SHUTE, Denver
Connecticut.....	MRS. WILLIAM BROWN GLOVER, Fairfield
Delaware.....	MRS. WM. S. HILLES, Delamore Place, Wilmington
District of Columbia.....	MRS. JOHN DEWHURST PATTEN, 2212 R street, Washington
Florida.....	MRS. I. VANDERPOOL, Maitland
Illinois.....	MISS MARY DRUMMOND, 208 West street, Wheaton
Indiana.....	W. W. WOOLEN, Indianapolis
Iowa.....	MRS. L. E. FELT, Keokuk
Kentucky.....	
Louisiana.....	MISS ANITA PRING, 1449 Arabella St. New Orleans
Maine.....	MRS. C. B. TUTTLE, Fairfield
Maryland.....	MISS ANNE WESTON WHITNEY, 715 St. Paul street, Baltimore
Massachusetts.....	MISS HARRIET E. RICHARDS, care Boston Society of Natural History, Boston
Minnesota.....	MISS SARAH L. PUTNAM, 125 Inglehart street, St. Paul
Missouri.....	AUGUST REESE, 2516 North Fourteenth street, St. Louis
Nebraska.....	MISS JOY HIGGINS, 544 South 30th street, Omaha
New Hampshire.....	MRS. F. W. BATCHELDER, Manchester
New Jersey.....	MISS JULIA SCRIBNER, 510 E. Front street, Plainfield, N. J.
New York.....	MISS EMMA H. LOCKWOOD, 243 West Seventy-fifth street, New York City
North Carolina.....	T. GILBERT PEARSON, Greensboro
Ohio.....	MRS. D. Z. MCCLELLAND, 820 West Ninth street, Cincinnati
Oklahoma.....	MRS. ADELIA HOLCOMB, Enid
Oregon.....	MISS GERTRUDE METCALFE, 634 Williams ave., Portland
Pennsylvania.....	MRS. EDWARD ROBINS, 114 South Twenty-first street, Philadelphia
Rhode Island.....	MARTHA R. CLARKE, 89 Brown street, Providence
South Carolina.....	MISS S. A. SMYTH, Legare street, Charleston
Tennessee.....	MRS. C. C. CONNER, Ripley
Vermont.....	MRS. FLETCHER K. BARROWS, Brattleboro
Virginia.....	MRS. J. C. PLANT, Glencaryn
Wisconsin.....	MRS. REUBEN G. THWAITES, 260 Langdon street, Madison
Wyoming.....	MRS. N. R. DAVIS, Cheyenne

Free Lectures—Free Bird Charts—Free Circulating Libraries

(Read at Annual Congress of Audubon Societies held
in Washington, D. C., November 19, 1903.)

In the above-mentioned order should these three factors hold place in the educational work of the Audubon Societies; and as it is upon the worth of its educational work, especially that in the public schools, that the whole future of the movement for bird protection hinges, the importance of these factors cannot be overestimated.

The lecture logically holds first place, as it is undoubtedly the best means of, we may almost say, compelling the attention

of those who are but slightly interested in birds, if at all. Many people of all ages will go to look at pictures, merely as pictures, the subject-matter being of secondary importance, while the interest thus aroused may be held and developed by other methods. Thus a well-constructed, well-illustrated free lecture should be the first equipment of all associations for bird study, while the terms *well-constructed* and *well-illustrated* have more than a mere nominal significance.

Whatever may be the scope of other lectures,—and if a society can afford to have lectures of several grades all the better,—th

first, which is to be the entering wedge, must be as popular in scope as it is consistent with accuracy and the dignity that should always be a part of Audubon work if it is to escape the ridicule of many who are always waiting opportunities to accord it.

Only the most familiar birds of the locality should be treated, in order to make the subject a part of every-day life and in every way intimate. Scissors and paste selections and mere detailed descriptions of birds repel even if they chance to catch the ear of the listener,—the pictures should be allowed to speak for themselves and the text be a skilfully woven narrative to keep the bird portraits and the views of their haunts and homes in unison. For there is always one thing to bear in mind in composing the text of a lecture to be read by every one and everywhere,—the author is not the speaker.

When a lecture is spoken or even read by its author, he, if he is worth listening to, paints a picture by color of tone and expression, touches lightly on the unimportant and lingers over that which is appealing. But the free circulating lecture appears in text of cold type; it is usually read by some one who may not have had the time to even glance it through by way of preparation, and who is also perhaps handicapped by an equally inexperienced man at the lantern, who keeps the subject and illustrations at odds by misplacing the slides and inserting the Great Blue Heron in place of the Hummingbird; so if the thought of the lecture be as lifeless as the type that expresses it, it has no reason for being.

Instead of saying, as many have—"Anything will do for a free lecture; it is going among a people who know nothing"—I hold that the writing of such a work is among the most difficult bits of bird literature, for it is akin to writing a sermon that shall both read and speak well, and we all know how few of the best specimens of oratorical art will bear this test.

Given your text, then comes the difficulty of gathering a well-colored set of from fifty

to seventy slides of birds, etc., for its illustrations, though this is an easier matter than four years ago, when bird photography was a new art. Yet still another note of warning. For this first lecture, it is wise to have only the most distinct and individual bird pictures, with little background, after Fuertes' method, a style for which the late Dr. Coues was a fighting champion and rightly, the haunts to be given upon separate slides.

The bird photographed in its haunt by an expert is of great beauty and value to the student or nature-lover, but it is apt to be inadequate and confusing to those in the kindergarten stage of identification. The novice is more attracted by the picture of even a ridiculously fat Bluebird perched on a fence-rail than in a shadow dodging about a telegraph pole, which he is informed by the taker is a Bluebird leaving its hole. We have many bird photographers whose work is simply marvelous, but their pictures are seldom accessible for the free lecture, and in bird photography the next grade below the best produces guessing pictures more complicated than the prize puzzles in the Sunday papers.

I was recently offered 'a bargain' in the way of photographs 'from nature' to illustrate school work. The slides came to me numbered, but ahead of the list of subjects. I tried to name them. Most of them were nebulous; one, however, I placed beyond doubt: it seemed to be the shadowy form of a skunk in the grass, with his plummy tail outlined against the sky. Imagine my feelings when, on comparing the number with the list, I found it marked—"Meadow Lark rising from nest"!

If our model, the Massachusetts Society, allows such a use, I would suggest that if photographed separately the birds from its valuable charts would, supplemented by seasonal landscapes, make an excellent set of slides for the first lecture of any society unable to pay for specially designed pictures.

Having your lecture, slides and a good oil or acetylene lantern (the best will be cranky enough) packed in a strong, metal-cornered box, the final move is to select a

keeper for the same—a wise, patient person—to see that the outfit is in order whenever sent out, to 'chase it,' like the agent who looks up run-away freight cars, when it does not come home promptly, and to book the applications for its use.

This is all extremely arduous work, requiring a knowledge of railway and express routes, as well as accuracy and quick wits, for engagements must be booked with due regard to distances and locality; and many frantic telegrams will be received saying 'We expect the hall full to-night and the outfit has not come'—this about four o'clock in the afternoon and the place fifty miles away. The right sort of manager must be able to telegraph some cause for detention or suggest a remedy. If the state is a large one, there should be one head office and several sub-stations in the various counties, where the outfit may be kept a month at a time for local use.

When this free lecture has been heard and seen at the public schools of a section curiosity will awaken, and questions as to the identity of birds will follow. Then comes the opportunity for supplying the teachers with the bird charts issued by the Massachusetts Society. As interest grows, and teachers and pupils alike begin to query and think, the free libraries should slip in to fill a demand that will be, if our own experience counts for anything, unending.

Here in Connecticut, though much outside work has been done, the public school is our chosen field, and the wise and hearty coöperation of the State Board of Education our greatest aid.

It is through this Board that we now circulate our material. Lectures, charts, libraries—all free, and freely transported—even as the money and labor that provided the material was freely given. This fall, when we asked if the interest in bird-work continued, and if this material was still in demand, the reply came—'Give us more books, more charts; we need one hundred libraries and a chart for every school.' Meanwhile, at the end of four years' service, our three lectures,—one popular, one economic, and addressed to farmers par-

ticularly, and one for children,—are still quietly working their way in remote places, as it were, breaking the turf in unplowed fields for the sowing of the knowledge whose fruit is Bird Protection.—MABEL OSGOOD WRIGHT.

Reports of Societies

Sixth Annual Report of the Pennsylvania Audubon Society

On looking back over the past year of Audubon work in Pennsylvania, I can see that we have made steady progress.

Over 9,000 circulars, 1,000 copies of the bird laws and 200 United States Agricultural Department circulars on shipment of game were distributed during the year. The membership has increased to over 7,000, in which sixty-two of the sixty-eight counties of the state are represented.

Miss Hilda Justice has continued in charge of the traveling libraries with much success. Twelve libraries of ten books have been in circulation in the state, and have been used in sixteen schools for twenty-nine periods of three months each. Teachers have written very appreciative letters respecting their use and the benefits derived from them by the children. Any school may obtain the use of a library by communicating with Miss Hilda Justice, Clappier street, Germantown, Philadelphia.

During the past year we have been in receipt of numerous complaints, relative to illegal shooting of insectivorous birds, notably Flickers and Robins, with the idea that the officers of the society can cause the arrest of the gunners. In order to show exactly how these arrests can be obtained, we would call the attention of our members to the following:

"The constable of each township or borough in Pennsylvania is the person authorized by law to arrest violators of the bird laws, and he must make a report under oath to the Court of Quarter Sessions of his county at each term, of all violations occurring in his township or brought to his notice.

"Members of the Audubon Society wish to have violators of the law arrested

should bring the matter to the attention of the constable of their township and see that he follows it up and reports on it as required. If he fails, he should be reported to the judge of the court. A constable failing in his duty can be prosecuted and fined \$50."

With regard to the use of bird plumage in millinery and the difficulty in ascertaining the exact nature of the dyed and "made up" feathers, we would say that most of the fancy feathers, pompons, etc., are really made from feathers of domestic fowls, but much other material is also used which is exceedingly hard to identify, and the safest and easiest course is to use only what is obviously admissible.

We would remind our members that any one signing our pledge-card becomes a member and receives a certificate, but those who wish to secure the annual report, notices of meetings, etc., must pay *one* contribution of at least one dollar (this is *not* an annual payment), and thereby become sustaining members and receive all circulars of the Society.

The distribution of literature and the amount of aid that we can give to the schools and other organizations interested in encouraging bird protection, depend entirely upon the *voluntary contributions* of members, and we trust that the success of our work will warrant continued support.

JULIA STOCKTON ROBINS, *Secretary*.

MRS. EDW. ROBINS,

114 S. 21st St., Philadelphia.

TREASURER'S REPORT FOR 1902

Receipts

Balance Oct. 26, 1901	\$46.71
Received, donations, etc. . . .	520.31
	\$567.02

Expenditures

General expenses	\$235.74
Traveling libraries	48.92
	284.66
Balance Nov. 1, 1902	\$282.36

WILLIAM L. BAILY, *Treasurer*.

Contributions should be sent to

WILLIAM L. BAILY,
421 Chestnut street, Philadelphia.

Pelican Island Reservation

Every bird-lover will rejoice to learn that under an executive order, dated March 14, 1903, the President of the United States has reserved Pelican Island, Florida, as a breeding-ground for native birds, and placed it in charge of the United States Department of Agriculture. By this act the continued existence of Pelicans, at least on the east coast of Florida, is assured, and one of the most interesting breeding colonies of birds in North America comes under the care of the United States government. Truly this is a triumph for bird-protection.

Legislation

As we go to press, we learn through Mr. Dutcher that the A. O. U. model law for the protection of birds has been adopted during the past few weeks by North Carolina, Oregon, Washington and Tennessee. It has also been introduced and is now under consideration by the legislatures of Colorado, Michigan, Missouri, Texas, and Virginia. In each of these states it has already been favorably reported or has passed one branch of the legislature. The significance and importance of this news will be appreciated by all bird-protectionists.

In its issue for March, 1903, the 'Millinery Trade Review' remarks, not without cause: "Unless the trade throughout the country 'gets a move on,' to use a street phrase, it will find itself debarred from the selling of anything and everything in the shape of bird plumage or fancy feathers next season. The craze for enacting laws against the use of bird plumage as millinery trimming is spreading to all the states and territories of the Union, when even made birds, constructed of geese feathers, glass eyes, wooden bills, buckram and cotton, will be pounced upon by intelligent game wardens as song-birds sold contrary to law. The trade should get together on this question and act before it is too late. The opinion of the attorney for the Millinery Merchants' Protective Association, given elsewhere, is worth a perusal. The work to be done in the future cannot be accom-

plished by the few. It must be performed by the many. Every dealer in millinery goods, from the importer to the smallest retailer, should be enrolled as being opposed to anti-commerce legislation, state and national, and act accordingly."

NOTES

It is with great pleasure that we report the organization of two additional state societies—the Audubon Society of the state of Louisiana, incorporated November, 1902, and that of the state of Colorado.

The Louisiana Society has issued a leaflet of such interest and importance on the side of economic ornithology that we reprint a portion of it.

"The important part birds play in relation to agriculture is so well established that we feel confident that the facts need but to be brought to the attention of the intelligent people of our state to secure for the birds the protection they so well deserve.

"Of late years the ravages of the cotton-worm, tobacco-worm and the cane-borer have been appalling, and why? Because the birds that feed on these insects and their larvæ have been wantonly slaughtered to satisfy the greed of a civilized but perverted people. Millions of our most beneficial birds are annually killed to be served on the tables under fancy names; while many other millions are stripped of their feathers, which are then used as fantastic decorations for the heads of women.

"Why are the crayfish giving so much trouble to the rice-planters, boring through their levees, cutting the standing rice and doing thousands of dollars damage every year? Because the Herons which fed on these crayfish have been slaughtered to satisfy the vanity of women, who demand their plumes for their hats. Why do the fishermen have so much trouble locating the schools of fish and shrimp? Because the great flocks of Gulls and Terns that followed these schools, thus showing the toilers of the sea just where to cast their nets, have disappeared. Where have they gone? Read the answer on the hats of our women.

"To bring about a better understanding of these vital matters is our aim. One of the most interesting parts of the work of the Society will be in enlisting the active coöperation of every boy and girl in the state. We want them all. We want them to read and circulate our pamphlets. We want them to learn the names and the habits of the birds which appear in our midst at the varying seasons of the year. We want them to entice birds to their homes by erecting bird-boxes, and by becoming their friends and protectors. We want to lead them on into a love for bird-life and everything connected with it.

"We ask the women of the state to interest themselves in our work and to refrain from wearing wild birds' feathers. Everything beautiful in the bird world is made to pay a terrible and bloody tribute to their love of personal adornment, the climax being reached when woman adorns herself with an aigrette, the beautiful nuptial plumage of the Snowy Heron. Instead of being their most relentless foe, we want the women of this state to be their best and kindest friends.

"A most urgent appeal will be made to the next Legislature for bird protection. We intend to raise such a powerful sentiment for the redress of the present frightful wrongs that our demands for efficient legislative enactment will be granted, not because this Society asks for it, but because it is in the vital interests of the people of every part of the state."

MR. E. C. HOUGH, of Falls Church, Virginia, reports the organization of a strong local society, of which he is president, which promises to exert important legislative influence, and to work in sympathy with the Glencarlyn Society.

THE Massachusetts Society has issued in a fifty-page pamphlet a detailed and comprehensive report of their work for five years, 1897-1902. As it is impossible to make adequate extracts from it, we would advise all those interested in organized work to obtain a copy from Miss Harriet E. Richards, secretary of the Society.



Bird = Lore

A BI-MONTHLY MAGAZINE
DEVOTED TO THE STUDY AND PROTECTION OF BIRDS

OFFICIAL ORGAN OF THE AUDUBON SOCIETIES

Vol. V

MAY — JUNE, 1903

No. 3

The Tortugas Tern Colony

BY DR. JOSEPH THOMPSON, U. S. N.

With photographs from nature by Dr. Alfred G. Mayer; reproduced by permission of the
Museum of the Brooklyn Institute of Arts and Sciences

ABOUT eighty miles to the westward of Key West, the Florida Keys terminate in a group of seven small islands, two of which, Loggerhead and Garden Key, are inhabited. Loggerhead Island is so called because of the great number of Loggerhead turtles (*Thalassochelys caretta*) that visit it in the spring for the purpose of digging holes in the sand and depositing their eggs; Garden Key is the site of Fort Jefferson, one of the largest fortresses in the country.

One mile southwest of Garden Key is a small island, about two hundred yards long by seventy-five wide, and in no place more than four feet above high tide. The vegetation consists of a few scrub palm trees, a dense growth of bay cedar bushes, patches of Bermuda grass and some cacti. This island is known locally as Bird Key, and has received its name from the fact that for as long as any one can remember it has been the chosen nesting spot of a large colony of Terns. Year after year these birds return to lay their eggs and raise their young, in spite of the relentless persecution to which they have been subjected by the natives, who have gathered their eggs for eating purposes. There have been years when not a single individual was raised, every egg having been taken shortly after it was laid.

It is admitted that the birds have decreased in numbers, and, in view of the treatment accorded them, it is remarkable that they have not been completely exterminated.

Last year (1902) was the first one that the A. O. U. model law was in effect in the state of Florida. Its enforcement would be an easy matter in such an out-of-the-way place, but in spite of the efforts of Mr. Dutcher, of the A. O. U., and in the face of a letter of promise from the commanding officer of the station to afford protection to the birds,

they suffered very seriously, no measures being taken by the latter to punish those who made raids on the birds' eggs.

During the first week in May, some years at the end of April, the Noddies (*Anous stolidus*) arrive. The first day will bring from a dozen to a score of individuals, the next two or three times as many. On the third and fourth days the number is beyond accurate count, and by the end of the week it is probable that the entire colony has arrived. As nearly as can be judged it contains about three thousand individuals.

It is believed that all matrimonial matters have been arranged before



YOUNG NODDY

the birds arrive, for within a day after the arrival of the earliest birds nest-building was begun.

The Noddy's nest is a bulky, but fairly compactly constructed one, made principally of twigs and dry seaweed, but they are prone to incorporate almost anything of suitable size or shape,—rags, bits of glass, old crab shells, etc. The top is only slightly concave, without downy lining, but frequently has several dozen small shells strewn loosely about.

By preference, the nest is situated well toward the center of a bay cedar bush, three to four feet from the ground; but before long all the favorable building sites are taken and then the birds build almost at random—some on tufts of grass only a few inches above the ground. These nests are apparently very hastily constructed and the workmanship



NODDY ON NEST



NODDY, NEST AND EGG

is bad; they are thin and flimsy and the first to suffer from the violent winds that at times pass over the group.

Within a week after the arrival of the birds the first eggs are to be found. Last year the counts were as follows: May 8, one; May 9, five; May 10, ten; May 11, twenty-three; May 12, thirty-seven new eggs. The counts were now abandoned, as one was liable to overlook an egg and include it in the enumeration of a following day.

The eggs require from thirty-five to thirty-six days to hatch. These figures are given upon only seventeen counts, but in that number the period was a constant one, apparently. The majority of the young are a dull



YOUNG NODDY CALLING FOR FOOD

black, unmarked; a few, however, have white blotches on back and wings, while less than one per cent are almost pure white.

The female (presumably) broods the eggs nearly constantly, only fishing a little in the early weeks of incubation. Toward the end of this period all food is brought by her mate.

The male (presumably) flies to sea many miles and returns with a crop full of sardines. Then he perches on the edge of the nest and the female takes hold of his bill and gives his head a rather violent shaking for a second or so. This seems to act as a stimulus to him to disgorge, and the food coming up will be eagerly picked from the back part of his throat by the female and devoured. At other times the entire contents

of the crop will be deposited on the rim of the nest and this will be eaten by the female.

The young are fed by both parents upon food disgorged in a similar manner. They are among the most helpless of young wild birds, being absolutely dependent upon their parents for food until they are over three months old.

For the first two months they remain in the nest; after that they are in and out of it, resting near by on branches, and when frightened descending to the ground and seeking shelter among the roots and in neighboring tufts of grass.

It is a rather humorous sight to see one of these great overgrown babies with an adult appetite patiently waiting for meals to be brought and scolding vigorously when the supply has given out. They are fully four-fifths the size of the adult before competent to care for themselves.

Normally but one egg is laid by a pair, but if it is injured or lost its place is promptly taken by another. One of the nests, during a storm, was broken, and the egg, then two weeks old, rolled into such a position that it was impossible for the birds to get at it. The following day the birds built a superstructure to the nest, and within a week another egg was laid, and their housekeeping proceeded without further interruptions.

This ability to control the size of the family presents a physiological problem of great interest. Normally, it consists of one young; but the possible number is apparently very large, as the same nest can be robbed many times of its egg and yet another will be deposited.

Another fact of great interest is the psychological change in the birds' characters as evidenced by their attitude toward man during the breeding season. These birds live on the high sea two-thirds of the year, and then are not easy to obtain with a shot-gun; but, when brooding, the mother-bird can be approached and easily taken in the hand. Toward the end of the season they can be picked up and handled, and when



EGGS OF SOOTY TERN

replaced on the nest will settle down immediately on the egg; thus showing how overpowering is the instinct to care for the young.

Toward the end of September the birds begin to leave. They leave in great flocks, and at night. The entire exodus consumes, apparently, but two or three days; and some morning the observer will find the island absolutely deserted, save for a few crippled birds that have been injured and are unable to follow their comrades.

About a week after the coming of the Noddies another species, the Sooty Tern (*Sterna fuliginosa*), makes its appearance. These arrive in larger flocks, and they all seem to reach the breeding place within about four days.



MAN-O'-WAR BIRDS

Within a week of the arrival of the first one their eggs are to be found. No nest is built, but usually a trace of a saucer-shaped depression is scratched in the sand. The favorite laying site was under the bay cedar bushes at the northern extremity of the island. There the ground had a fair covering of dried leaves, but hundreds of birds laid apparently at random, in the open, under the piazza of a little house, and in places where no sunshine got to them.

For about the first two weeks the eggs are brooded only at night, but as time goes on they are better cared for, but by no means as closely attended to as are those of the Noddy.

The Sooty Tern is far more difficult to approach than the

Noddy, being of a much more nervous temperament, and when disturbed it will rise uttering a warning cry which is distinct from calls used on other occasions. This will be instantly taken up by the entire flock, as it rises in a great cloud, to circle a few times over the island and then settle down again.

The Noddy is a silent bird, except for a prolonged hoarse, guttural note uttered when molested or when squabbling. The Sooty Tern, on the other hand, is a most talkative bird. It has notes resembling more a

staccato laugh than anything else to which it may be compared; also a few low and musical tones, used when a pair are communicating with each other, as when the male has returned from a fishing expedition. Their warning note is a high and shrill *e-e-e-e*.

Normally, in the Tortugas, there are, on an average, a score of Man-o'-War Hawks (*Fregata aquila*), but when the Terns arrive their number is increased to over three hundred. They come not for the purpose of breeding, but to rob the Terns of the food they are bringing back to their mates.

One that has been fishing and is returning with a cropful of food

will be attacked, struck at and tormented until, in order to facilitate escape, it is forced to disgorge. This done, the Man-o'-War Hawks



EGGS AND YOUNG OF LEAST TERN



snatch the bolus of food, at times before it has fallen into the water.

These three species, in other respects, get along most peaceably. The Noddies and Terns do not pay the slightest attention to each other; the only quarreling that occurs being when a Man-o'-War Hawk perches too near to the nest of a Noddy, when the mother-bird flies up, scolding, and makes a few ineffectual darts at the offender.

The third, and last, species known to breed in the Tortugas is the Least Tern (*Sterna antillarum*). A few years ago they came to Loggerhead and nested in fair numbers on the southwestern extremity of the island; but of late, according to the keeper, they have not done so. "It's too bad," he added, "because the eggs are delicious eating."

This year about thirty couples raised families of from one to three

young on Long Key. The faintly mottled white color of the eggs and young affords a perfect example of protective coloration.

These birds breed about the end of July. One cannot get close enough to them to ascertain if the eggs are brooded, or for how long.

This year a special warden will be detailed, as the result of Mr. Dutcher's kindly interest, and probably for the first time in their known history these breeding grounds will have the care and protection which all fair-minded people should extend toward our friends, the birds.

A Hermit Thrush Song

BY THEODORE CLARKE SMITH

(Reprinted, by permission, from *The Ohio Naturalist* for February, 1903.)

DURING the summer of 1902 I stayed from June 24 to July 30 at a camp on the shore of Lake Memphremagog. My tent was placed at the edge of a cedar and hemlock grove, mixed with occasional maples and birches which furnished nesting places for a great variety of birds. The most conspicuous singer was a Hermit Thrush whose nest was not far from the tent, and whose song was heard every morning and evening, and frequently during the day, for over a month. Others of his kind were also audible, sometimes close at hand, but none became so thoroughly familiar as this "Camp Thrush." I have heard him at extremely close range,—on one occasion from less than ten feet,—and have also been able to distinguish his song, over the lake, from a distance of fully three-quarters of a mile. From an abundance of material the following notes are contributed in the effort to analyze his vocal performance.

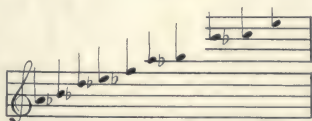


In form the song of this Thrush was very distinct, clear-cut and regular. His typical phrase was as here shown. This same form was repeated by the bird in higher keys, usually somewhat simplified by the omission of one or more of the latter notes until, at the top of the bird's register, it became reduced to little more than the following. The closer one approached the Thrush the greater appeared the regularity, as long, that is, as the bird was in full song; for when beginning or when singing softly he departed noticeably from his ordinary practice.

On several occasions the bird sang near the camp cabin, in which there was a piano, and it was a simple matter, owing to the regularity of the song, to determine the pitch with considerable accuracy. With regard to



the long opening notes I speak with great confidence, for I took down a long series on two occasions and found the pitch unchanged. From these observations I determined that the Thrush used phrases in the following keys. I heard no others and never detected any flatting or sharpening. It will be noticed that these keys form part of the scale of A flat major.



In this, and in fact in the whole song, the approximation to the human scale was striking.

The Hermit's song consisted, nine times out of ten, in a regular alternation of low with high phrases. Two in succession on or near the same level he never in my hearing gave, but he would sometimes ascend or descend through a series of three different keys. There was no fixed order nor any necessary key relation between successive phrases. I have long lists of such and am certain that the bird uttered his theme in whatever key suited his fancy, so long as it was not a repetition of the theme just uttered. For example, one series began with a low B flat followed by a high A flat, then a middle F, then an upper B flat, then dropped to low A flat, soared up two octaves to high A flat, dropped to middle B flat, then down to low E flat. This continual alternation of key was the most striking thing about the Hermit's song, apart from its regularity and accuracy of pitch. It suggested, somehow, the orchestral handling of a theme by a musical composer, and made it beyond comparison more interesting as a performance than the simple repetitions of the Olive-backed Thrush, or the endless variety of the Thrasher.

The utterance of the theme was for all the lower forms distinct and without *portamento*. Now and then, although rarely, the bird gave his triplet or quadruplet notes a vibratory "trill," and in the very highest phrases the distinctness of vocalization was much diminished. The bird's voice never broke on its highest notes, but his enunciation became somewhat indistinct, although never to such an extent as to disguise the form of his theme.

The voice of the Hermit Thrush was made individual by overtones, giving it a considerable richness and penetration and even a metallic burr or buzz. It suggested somewhat the reed-quality of the oboe superadded to a flute's open tone. Direct comparison was possible only with the piano, a bugle and a flute, and, needless to say, it was far closer to the last named, but very much more vibrant, less hollow. The "burr" was audible at short ranges only. At a hundred yards or less it blended to give the voice a singularly ringing metallic quality which gave it a carrying power unapproached by any other bird of that region. It should be said that in proportion as the bird seemed to be exerting himself, as, for example,

on one occasion when suddenly joined by his mate, the metallic overtones were less prominent, and in certain of the key varieties they were nearly absent. The long opening notes were the freest, the high, rapid ones the most burdened with overtones. At their worst the highest figures were occasionally almost squeaky, but in the full song they were by no means lacking in sweetness, and they were always clear and sharp.

Heard from a very close range the long, full notes were fairly piercing, so sweet, full and vibrant were they. They were too loud for comfort, and when the bird suddenly began to sing while perched on a fence about ten feet from my tent it fairly made my ears ring.

The most characteristic feature of the song in the line of vocal modulation was as simple as the phrase itself, but equally effective. The opening long note was struck firmly and held sometimes with a slight crescendo, but the succeeding rapid figures were progressively diminished in loudness, until the last clearly uttered notes faded away in a silvery tinkle. This *smorzando* or *diminuendo* utterance was almost habitual with the "Camp Thrush," and was indescribably effective. It suggested the modulation of the piano player, since it surpassed in extent of diminution and in delicacy of utterance at the end anything within the compass of a wind instrument. But the piano *smorzando* would lack the crescendo on the opening note.

The whole song was vigorous and sure in delivery, slow—since the phrases, taking at the most two and a half seconds in delivery, were separated by four to six seconds of silence—but perfectly steady in tempo, and certain in execution. The unusual richness and vibrant power of the tone, enhanced by the effective *smorzando* utterances of successive phrases, with the never-failing alternation of key and pitch, marked the song off from any other sound of the Canadian woods.

This bird was by no means unusual, nor, on the contrary, identical with others of his species. His nearest neighbor differed from him in several marked ways, being less regular in song-form, having much more variety in his phrases, using minor as well as major keys, being less distinct and finished in utterance although rather sweeter in voice, singing a little more slowly and a little less loudly, being rather inferior in penetration, and not using the *smorzando* delivery so much. But both were master-singers.

Nesting of the Indigo Bunting

BY LILIAN CLEVELAND, West Medford, Mass.

ON the morning of May 26, 1900, while working in my garden, a sharp *chip!* attracted my attention, and, glancing up, I saw a small brown bird perched on the piazza rail, with some plant-down in its bill. After nervously bobbing its head up and down, and twitching the tail from side to side several times, it darted into the deutzia bush, and in a moment appeared from the other side and flew away.

Upon examination, I found the upright stalks drawn together and fastened with rootlets twined around them. Dried leaves and shreds from the grape-vines also were included in the foundation. Some of the previous year's clematis fluff was next in order. Thinking to help my little visitor, I hung some hairs from a horse's tail about on the bushes. She readily accepted them, and lined the nest beautifully. My desire to identify this plainly dressed bird was great. It looked like a Sparrow, but unlike any of those I knew well. Great was my surprise and delight when, on a birch close by, I next day discovered the pair in consultation. Now identification was easy, for the brilliant iridescent greenish blue of the male was unmistakable. After that he came with his mate often and went into the bush, but I am quite sure he did not bring any material for the nest. They talked together while there in little chirps and coos.

After the nest was finished, which was on the 30th, they left it, and, I feared, would not return; but, on June 3, one little white egg was in the nest, the next morning another, and the next still another. Then followed two weeks of incubation, during which time I never saw the male near the nest. I heard him singing from the tree-tops in a neighboring field; but, early or late, so far as I know, he did not come to the bush. The little mother, though at first very much frightened when we watched her, soon became accustomed to our presence, and would not fly off when we leaned over the railing and talked to her in the most flattering language.

On June 17 these patriotic birds hatched, one in the morning, the other two before night. Then came the question of food for them, and at this time I watched for the father, thinking he would surely come to do his part; but either he was uncommonly lazy, or it was part of the plan to keep his brilliant color away from the vicinity of the nest, as I caught not even a glimpse of him. Owing to the thickness of foliage and blossoms on the bush, it was quite difficult to tell whether the exclusive diet of the nestlings was soft, green worms and three-quarter-inch grasshoppers or not, but those two were all that we saw them have. Their mother had a busy time hunting grasshoppers by hovering over the uncut grass in an adjoining field. On June 26 the little ones began leaving

the nest, hopping from twig to twig among the shrubs, and I spent several anxious days and nights, fearing they would be appropriated by the neighbor's cat. They grew very fast, and by the next day they could hop along the ground in a lively manner. That evening, while we were sitting on the piazza just at dusk, a small gray thing apparently rolled down the walk; upon investigation it proved to be one of those refractory children starting out to explore the world. I picked it up and put it to bed in a strawberry basket on some soft grass-clippings. It was very wide awake, and I had to keep my hand over it until darkness and warmth quieted it, and its head went behind its wing. I then tied the basket carefully to the railing near the nest, and at four the next morning the little thing was sitting on the edge of the basket calling for breakfast.

On June 28, the father reappeared. I came upon him suddenly when they were consulting in the bushes. Apparently he had shirked all the hardest work and had come around for the fun. However that may be, the next morning he and Mrs. Indigo coaxed the little ones safely off into the higher trees, and that was the last we saw of them; but a friend living an eighth of a mile away said she had apparently the same family in her trees the next week.



NEST AND EGGS OF CATBIRD
(Englewood, N. J., June 15, 1898)

For Teachers and Students

How to Study Birds

THE NESTING SEASON

BY FRANK M. CHAPMAN

FOURTH PAPER

THE NEST

Nesting Material The material of which a bird's nest is constructed depends primarily upon the nature of the bird's haunts. The nests of marsh-haunting birds are usually made of reeds or woven of wet marsh grasses; woodland birds generally employ twigs, root-lets, bark, leaves, mosses, etc., while field-inhabiting species, as a rule, use chiefly dried grasses.

It follows, therefore, that a change in the nature of a bird's haunts is apt to be attended by some variation in the character of its nest. At the northern part of its range the Green-crested or Acadian Flycatcher builds its nest of plant-stems, grasses and dried blossoms, but in Florida its nest is composed wholly of the Spanish or Tillandsia 'moss.' In the east, Night Herons build in trees, when the nest is made of twigs and sticks; but in the west the nests of Night Herons

Variations may be constructed of the reeds among which they are placed. Orioles nesting near a house often gather the strings, worsteds, etc., to be found there; while individuals of the same species, for which these objects are not available, still select plant fibers for their nests.

Under the same conditions of environment a change in the nature of the nesting site does not, as a rule, appear to affect the character of the nest. Robins' nests are much the same, whether the bird builds in a tree or on a window-sill. The Ospreys of Gardiner's Island which nest on the ground, with one or two exceptions, gather as much nesting material as do the birds that nest in trees, though their nesting site calls for little or none.

The nests of the Pelicans of Pelican Island, Florida, however, vary, as a rule, in relation to their situation, those that are placed in trees being necessarily composed of sticks; while, in my experience, it is exceptional to find, among the hundreds of ground nests, one in which sticks are employed.

In some instances the necessity for concealment apparently exerts an influence on the nesting material. What is generally spoken of as "nest

decoration," if it have any significance, is assuredly not designed to make the nest conspicuous through display, but inconspicuous by bringing it into harmony with its surroundings. Nests of the Wood Pewee, Blue-gray Gnatcatcher and Hummingbirds are examples of this class. The Verdin makes its soft, upholstered nests impenetrable by so thickly covering it with spines and thorns that it can be handled with difficulty.

A too liberal interpretation of habit, in the case of the Crested Flycatcher, credits this bird with intentionally introducing a cast snakeskin into its nest, to serve as a scarecrow, frightening would-be intruders. The explanation is important, if true, but there is no evidence to support it. A cast, bleached, everted snakeskin is soft and pliable, and makes good nesting material. As a matter of fact, it bears small resemblance to a snake, and there is no reason to believe it protects a nest a bit more effectively than fragments of wasps' nests or a lining of hairs. It is the habit of the members of the genus *Myiarchus*, so far as they are known, to use snakeskins in nest-building, just as it is the habit of certain Vireos to employ wasps' nests, but how the habit originated will, doubtless, never be known. So far, however, as the Flycatchers and Vireos of to-day are concerned, the fact that snakes' skins and wasps' nests can be used to advantage in nest-building is, doubtless, sufficient cause for the selection of these objects.

The nest may be built by both sexes; by the female alone, or by the female with a limited amount of assistance from her mate, *Building of the Nest* who may be permitted to bring material but not to place it in position. A nest may be completed within a few days and occupied at once, or even before it is finished. Again, weeks and in some few cases, for example, the Oven-birds (*Furnarius*) of South America, the nest is begun two or three months before it is to be occupied.

Even when finished a nest may not please its maker, who will then demolish it and use the material in the construction of another home. In other species, a nest may be completed and abandoned; while some species, Long-billed Marsh Wrens, for instance, build a number of nests and use but one.

The care required to observe closely nest-building birds without causing them to abandon operations, as well as the locality, doubtless accounts for the comparatively limited amount of correct information on this subject, and creates a correspondingly wide field for investigation.

The character of birds' nests, from the architectural point of view, *Character of the Nests* may differ greatly even when the material of which they are composed is the same. The structure of the bird, or in other words, the tools with which it is provided, does not often govern the type of home which it will build. A Swallow, it is true,

could not fashion a Woodpecker's dwelling; but a momentary comparison of the widely different kinds of nests built by Swallows and Swifts (which, so far as nesting tools are concerned, may be classed with Swallows) readily shows how little the structure of the bird has to do with nest architecture.

By far the most important factor governing the character of a bird's nest is the condition of its young at birth. Indeed, in considering this



SIMPLE NEST OF KILLDEER, A PRÆCOCIAL BIRD

(Meridian, N. Y., June 7, 1898)

question we are brought very near to an attempt to determine the origin of birds' nests.

In a rough classification we may place birds in two groups: first, those whose young leave the nest the day they are hatched; second, those whose young are reared in the nest. Birds of the first class are termed præcocial; those of the second, altricial. Compare the newly hatched young of a Grouse with those of a Robin, and we have two admirable examples of præcocialism and altricialism.

All præcocial birds are hatched with a growth of downy feathers which, when they are dry, practically cover their body.

Condition of Most altricial birds are born essentially naked and do not
Young at leave the nest until they have acquired the nestling or
Birth juvenal plumage. There are, however, numerous exceptions to this statement. For example, many species of the family Alcidae (Puffins, Murrelets, etc.), the Petrels, Herons, Hawks and Owls are



WELL-FORMED NEST OF RED-WINGED BLACKBIRD, AN ALTRICIAL BIRD
 (Englewood, N. J., May 30, 1898)

more or less well covered with feathers at birth, but are then nevertheless comparatively helpless and spend some weeks in the nest.

The significance of the condition of the young at birth is far-reaching, but, unfortunately, it is not as yet understood. It happens that most of the older or lower forms of birds,—that is, those birds nearest the reptilian type, whence, it is believed, all birds descended,—are præcocial. On the other hand, all the higher birds, that is, those farthest from reptilian ancestors, are altricial. For example, among North American birds the Grebes, Loons, Gulls, Terns, Ducks, Rails, Coots, Snipe, Plover and gallinaceous birds are præcocial, that is, their young run or swim shortly

after birth; while all the great group of perching birds (Passeres) are altricial, that is, their young are reared in the nest.

It is possible, therefore, that the condition of the bird at birth may be connected with its evolutionary development; and, if this be true, birds' nests have been evolved with the birds themselves, as, in passing from præcocialism to altricialism, a nest has become a necessity.

It happens, however, that some birds admittedly low in the evolutionary scale are altricial and build a well-formed, substantial nest. The young of the Steganopodes, for example, are born naked; and the Water Turkey (*Anbinga*), Brown Pelican and often the Cormorants build large, strong nests. The Noddy, as Dr. Thompson shows in this number of BIRD-LORE, builds a nest which its single young may occupy for two months. The Herring Gull also builds a tree nest in some localities, which its young occupies for some period. In the latter case the Gull is said to have taken to the trees for protection from nest robbers. But it is difficult to believe that the Noddy, tame, unsophisticated breeder on keys far from the haunt of man and uninhabited by predaceous mammals, can have become a nest-builder from a similiar cause; though possibly crabs may have forced it to adopt the nest-building habit. Herons and Ibises are also considered old types of birds, but they also build nests, even if rude ones, and in or on them their young exist for a time in a helpless condition.

Evidently, then, a nest may be built, whether the builder be high or low in the scale of life, when the condition of its young at birth demands a cradle in which they may live. In a number of cases, however, shelter is provided for the young without actually building a nest, but by using a natural cavity in a tree or cliff, by making a burrow in a bank, as do Kingfishers, or a hole in a tree, as do Woodpeckers, in each case without adding a lining or actual nest material.

We are still, it is true, far from learning the origin of the nest-building habit, nor can we do more than speculate upon it until we know whether primitive birds were præcocial or altricial. What were the young of the Archæopteryx like? Were they active, or were they born in a helpless condition? Archæopteryx itself was assuredly arboreal, and hence its young must sooner or later have been fitted for a life in the branches. Possibly they may have clambered about shortly after birth, as do the young of the Hoatzin of South America; when the nest may have been simply a rude platform, as is the nest of the Hoatzin. It seems natural, also, to believe that many early birds deposited their eggs in holes or hollows of various kinds. It is worthy of note that, with the exception of the Hoatzin, most, if not all, truly præcocial birds nest on the ground. The Ducks that build in trees, and the Gull and Noddy before mentioned, are exceptions which in no way affect the general rule.

Nevertheless, Pycraft, in a recent article (Pop. Sci. Monthly, December, 1902), advances the theory that *all* birds were originally arboreal and præcocial, and that, because of the danger of falling, etc., to which præcocial young, born in trees, would be exposed, the parents of those that remained præcocial descended to the ground to lay their eggs; while the young of those birds which did not make this change either perished or gradually became altricial. Under the latter supposition there would evidently be a need for a corresponding change in the character of the nest, which would then become designed to hold not only eggs but young birds.

Mr. Pycraft finds support for his theory in the development of the wing of chickens and some other gallinaceous birds, which frequently have a claw on the thumb and, in the embryo, one on the index finger; and in the absence of the outer flight feathers from the first plumage, leaving a free finger-tip; all characters which suggest a former arboreal mode of life.

The theory may be accepted for certain species, but the discovery of *Archæopteryx* would not seem to warrant us in assuming that all the ancestors of birds were arboreal. We cannot assert that no birds have been derived from either terrestrial or aquatic ancestors, a line of descent which would have a most important bearing on the condition of the young at birth of existing species, and, consequently, upon the character of their nests.

HINTS FOR THE STUDY OF THE LIFE OF THE NEST

With a hope that they may be of assistance to students during the nesting season, we append here, in advance of the publication of the succeeding papers of this series, some suggestions for a study of birds during the period of incubation and care of the young.

Some form of blind, in which one may conceal oneself near the nest, is essential if one would study the home-life of birds at close range. After struggling with a clumsy affair of sticks, wires and canvas, I finally hit upon a very simple and effective structure, easy to make, to carry, and to erect. It consists of a good-sized umbrella, a sharp stick about three feet long, and some light green material. Cut the material into six- or seven-foot lengths and run them together until their united breadth equals the circumference of the open umbrella. Run a strong tape around what will then become the top of the cloth; draw the ends until the remaining opening is about five inches in diameter, and then tie them. Stick the end of the closed umbrella into this five-inch hole and open it, when, as the folds of the cloth are adjusted, they will fall evenly from all sides of the umbrella and make a circular tent. Drive the three-foot stick a few inches into the ground, and fasten the umbrella handle to it with two

hook-and-eye, rubber bicycle bands. From the point of the umbrella outside run guys of strong string to pegs in the ground, or any convenient object, and the blind is in position.

Prof. F. H. Herrick employs a small tent in his bird studies. It is described in his excellent 'Home-Life of Wild Birds' (G. P. Putnam's Sons), and possibly may be better than the structure just mentioned. I have found the latter, however, a most satisfactory affair and quite large enough for an observer with his camera.

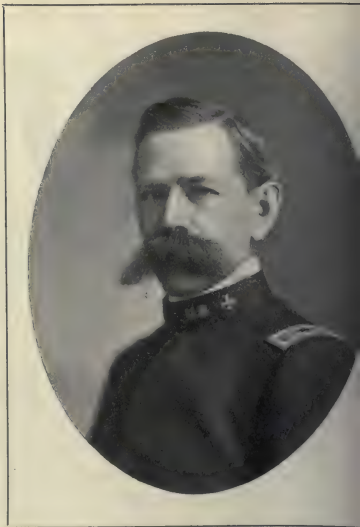
How long after the completion of the nest is the first egg laid? If a migratory species, how long is this after the bird was first observed? Will stormy or cold weather lengthen the period of laying? When is the set completed? How many eggs does it contain? If the egg should chance to be destroyed will the bird lay again? If a Cowbird's egg is laid in the nest is any attempt made to eject it, or to avoid hatching it by building a second nest on the first? What are the enemies of birds' eggs? Note the color of the eggs in relation to the character of the nest? When does incubation begin? How long does it continue? Is it performed by one or both species? Is there any regularity in the daily periods of sitting and of feeding? Does one sex ever feed the other while on the nest? Will the sitting bird permit a near approach? When returning to the nest, does it come directly or with much caution? What is the condition of the young at birth (naked? feathered? blind? etc.)? Do all the eggs of a set hatch at about the same time? How soon after hatching is the young bird fed? What is the nature of its food? Does the food change as the young bird grows older? Is it like that of the parent? Is it prepared in any way? How often are the young fed? How are they fed? How is the nest kept in a sanitary condition? How long after hatching do the young remain in the nest? If born blind, when do the eyes open? When do they first recognize the calls of the parent? Do they instinctively obey them? or in any way respond to them? When does the young bird first exhibit fear by attempting to escape or to defend itself? What are the calls of the young? How long after it leaves the nest is it dependent on its parents? Are its first attempts at flight successful, or does it learn to fly? How is the young defended by the parents?

In a subsequent paper we may study the life of the young bird systematically. The preceding questions are designed to suggest lines of research to the student, who is advised to consult Lloyd Morgan's 'Habit and Instinct' for information on the general subject, and F. H. Herrick's 'Home Life of Wild Birds' for definite observations of this nature.

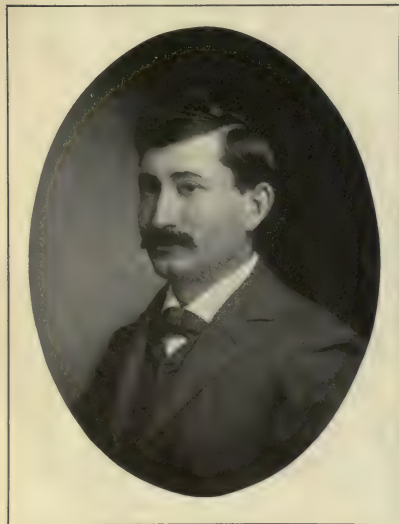
(TO BE CONTINUED)



JOHN H. SAGE, *Connecticut*



EDGAR A. MEARNS,
Northern Arizona, Western Texas



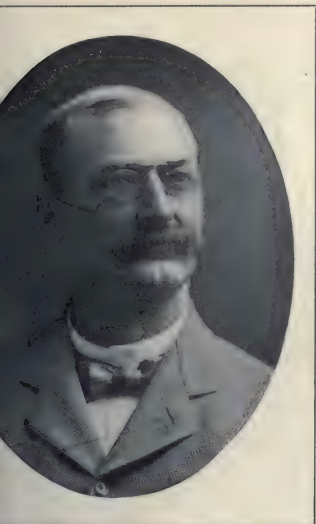
B. T. GAULT, *Northern Illinois*



C. M. WEED, *New Hampshire*

BIRD-LORE'S ADVISORY COUNCILORS

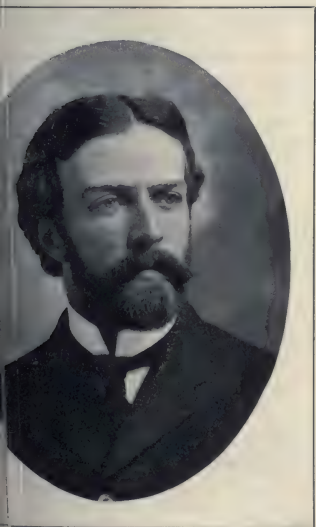
FOURTH SERIES



HERBERT BROWN, *Southern Arizona*



A. W. BUTLER, *Indiana*



JOHN E. MURPHY, *Georgia, South Carolina*



ELON H. EATON, *Western New York*

BIRD-LÖRE'S ADVISORY COUNCILORS
FOURTH SERIES



What Bird is This?

Field Description.—Length, 5.30. Above mixed black, reddish brown, ashy and buff; crown blackish, with a buff line through its center; nape reddish brown, with small black spots; an orange mark before the eye; breast buffy; belly whitish; no conspicuous streaks below; tail-feathers narrow and pointed.

NOTE.—Each number of BIRD-LORE will contain a photograph, from specimens in the American Museum of Natural History, of some comparatively little-known bird, or bird in obscure plumage, the name of which will be withheld until the succeeding number of the magazine; it being believed that this method of arousing the student's curiosity will result in impressing the bird's characters upon his mind. The species figured in April is a young female Blackburnian Warbler.

Questions for Bird Students

IV

17. At about what age do Marsh Hawks begin to fly?
18. What three reasons have been advanced to account for the belief that singing birds are more abundant in England than in America?
19. How many species of birds has an observer in eastern North America recorded as being heard to sing simultaneously one day in June?
20. At about what age do young Kingfishers leave the nest?
21. How many times has the Horned Lark been known to feed its young in an hour?

Notes from Field and Study

The A. O. U. Trip to California

Members of the American Ornithologists' Union and their friends, numbering forty odd in all, left Chicago in two special Pullman cars on the evening of May 3, and reached San Francisco on the afternoon of May 14.

Thanks to the experience of those in charge of the arrangements, the journey was so admirably planned that the time en route was used to the best possible advantage; while the presence of authorities on the physiography, fauna, and flora of the region traversed added immeasurably to the interest as well as to the educational value of the excursion.

Doubtless no party of excursionists ever crossed the continent who gained so much knowledge of its geography and natural history in an eleven days' outing; and it is perfectly safe to add that no car-windows were ever looked from so continuously and so eagerly as were those of the 'Fama' and 'Debrosa,' on this memorable transcontinental journey.

The rallying point of the tour may be said to have been the residence of Ruthven Deane in Chicago, where, on the evening of May 3, Mr. and Mrs. Deane received the members of the Union, who were about to leave for the west, as well as those less fortunate ones residing in and about Chicago who were unable to leave home.

Among the members of the Union who formed the party were C. Hart Merriam, J. A. Allen, B. Bishop, H. C. Bumpus, F. M. Chapman, Mrs. E. B. Davenport, J. Dwight, Jr., J. H. Fleming, L. A. Fuertes, C. S. Palmer and Otto Widmann.

Traveling over the Santa Fé line, we passed through the fertile bottom-lands of the Missouri and Kansas rivers on Monday, May 5, to emerge, later in the day, on the rolling prairies.

The next morning we awoke on the Arid Plains to hear the song of the Western Meadowlark. Prairie dogs, an occasional coyote, and, shortly before reaching Trini-

dad, a Magpie afforded convincing evidence that we were indeed in the west.

Late in the evening our cars were detached from the train at Lamy, N. M., and run up over the short branch road to the old city of Santa Fé, where we remained until the afternoon of the following day.

This, our first opportunity to take to the field, was improved to the utmost, the members of the party radiating in every direction, to return later and compare observations—by no means the least pleasurable part of the day's experience.

At Santa Fé thirty-nine species of birds were recorded, among them being the Mountain Bluebird, House Finch, Say's Flycatcher, Violet-green Swallow, Lewis's Woodpecker, Lozuli Bunting, Audubon's Warbler, and other western birds equally attractive to eastern eyes.

May 7 our cars were side-tracked at Adamana, and the petrified forest, distant six miles, was visited. We were here in the heart of the desert and our start was made too late in the day to see or hear many birds, but a short visit to the cottonwoods bordering the Puerco, in the evening, showed an unexpected number of birds, —Mocking-birds, Bullock's Orioles, Arkansas Flycatchers, Black-throated Sparrows and other species, being common and in song.

We reached the Grand Cañon on the evening of May 8, early enough to have a glimpse of its marvels before the failing light shrouded its vastnesses in gloom; and to see the white-throated Swifts dart twittering to and fro over apparently bottomless gorges.

We remained at the Cañon until the morning of May 11, and consequently had two full days in which to learn something of the bird-life of the region. Some of the party entered the cañon and descended to the Colorado river, nearly five thousand feet below, while others explored the pine, piñon and juniper forests of the surrounding country, where some thirty-eight species of birds were identified. This number in-

cluded the Red-shafted Flicker, Violet-green Swallow, Audubon's Warbler, Red-backed Junco, which was found nesting, Mountain Chickadee, Pygmy Nuthatch, Grace's Warbler, Black-throated Gray Warbler, Cassin's Vireo, Poor-Will, Long-crested Jay, Woodhouse's Jay and Spurred Towhee.

In the Cañon the Rock Wren, Cañon Wren, Lozuli Bunting and Ash-throated Flycatcher were characteristic species.

At sunrise, on the 12th, we stopped at Hesperia, among the tree yuccas of the Mojave Desert, and in many respects the two hours passed here were among the most enjoyable of our journey. Birds and flowers were both surprisingly abundant; the yuccas and the Cactus Wrens which were nesting in them being objects of special interest.

Toiling through the winding cuts of the Cajon Pass, we emerged upon the Pacific Slope and shortly were at San Bernardino, in a region where irrigation and cultivation have created a truly wonderful transformation. For miles our track was almost continuously bordered by orange groves, while Riverside, where an all too short stop was made, seemed, in truth, a paradise of birds and flowers.

On the evening of this remarkable day Los Angeles was reached, and here a reception was tendered the members of the Union by the southern division of the Cooper Club. The following day was devoted to an ascent of Mount Low, where, at an altitude of 5,000 feet, many birds previously seen about the rim of the Grand Cañon were again encountered.

At half-past seven o'clock, the evening of the same day, the final stage of the journey was begun, and after a most interesting ride on the Southern Pacific railroad through the Salinas Valley, the first, we trust, of many transcontinental tours of the American Ornithologists' Union was concluded at five o'clock, Thursday afternoon, May 14.

Members of the Cooper Club and of the Academy of Sciences were on hand to pilot us to our various lodging places, and, indeed, throughout our stay the kindly and in-

valuable attentions of the resident ornithologists never failed us; to them is due not only the success of the meeting but the many delightful experiences which befell us individually after its adjournment.

The first session of the joint meeting of the Cooper Club and the A. O. U. was held in the Lecture Hall of the California Academy of Sciences May 15, at 11 A. M., and subsequent sessions were held on the afternoon and evening of the same day and on the morning of the following day. On both days those in attendance were elaborately entertained at luncheon by the members of the California Academy of Sciences.

On the afternoon of the 16th, in response to an invitation from President Jordan, a visit was paid to Stanford University.

Several of the papers presented at the meeting were of more than usual value, particularly Mr. Joseph Grinnell's communication on the 'Origin and Distribution of the Chestnut-backed Chickadees,' and Mr. Walter K. Fisher's account of the bird-life of Laysan; while the lantern slides exhibited by Mr. Fisher and Mr. W. L. Finley have never been exceeded in interest and scientific value by any shown at our A. O. U. meeting.

A program of the several sessions is appended: 'Origin and Distribution of the Chestnut-backed Chickadees,' Joseph Grinnell; 'The Cassin Auklet,' Howard Robertson; 'Recognition of Geographic Variation in Nomenclature,' Leverett Mills Loomis; 'Notes on the Fresno District,' J. M. Miller; 'Do Valley Quail use Sentinels?' John J. Williams; 'An Island Community, or Bird-Life on Laysan,' illustrated with lantern slides, Walter K. Fisher; 'Notes on the Birds of Chili,' Joseph Mailliard; 'Call Notes of the Bush-tit,' Joseph Grinnell; 'General Habits of the Prairie Falcon,' Donald A. Cohen; 'Oregon Birds Caught with a Camera,' illustrated with lantern slides, Wm. L. Finley; 'The Bird Islands of Our Atlantic Coast,' illustrated with lantern slides, Frank M. Chapman; 'Remarks on the A. O. U. Journey across the Continent,' Louis A. Fuertes; 'The Farallon Islands,' illustrated with lantern slides, M. Otto Emerson.

Book News and Reviews

THE STORY OF A BIRD LOVER. By WILLIAM EARL DODGE SCOTT. New York: The Outlook Company. 1903. xi + 372 pages; 1 plate. Price, \$1.50.

This is an exceedingly interesting book. From a wide and varied experience as a field ornithologist whose labors extend over a period of some thirty years, Mr. Scott has here presented what appears to have been best worth preserving. In the main the book is a personal history of the author's life, with a recountal of the more important events in his career, and a description of the localities he has visited, with an outline of what was accomplished in them. For details the reader is referred to the author's scientific papers, a bibliography of which is given as an appendix.

Mr. Scott has worked chiefly in Florida, New Jersey, Missouri, West Virginia, Colorado, Arizona and Jamaica. He first visited Florida in 1876 and returned to the state at intervals until 1892. It was in the early part of this period that Florida birds were first systematically attacked by plume hunters, and Mr. Scott's 'Story' contains some graphic descriptions of Florida bird-life both before and after the feather dealers devastated its teeming rookeries.

In his concluding chapter Mr. Scott refers to his observations on birds in confinement, and presents in a suggestive manner the possibilities for research in this direction. For reference purposes the book's value is decidedly impaired by the absence of the index which it deserves.—F. M. C.

A POPULAR HANDBOOK OF THE BIRDS OF THE UNITED STATES AND CANADA. By THOMAS NUTTALL. NEW REVISED AND ANNOTATED EDITION. By MONTAGUE CHAMBERLAIN. With additions and one hundred and ten illustrations in color. Boston: Little, Brown & Co. 1903. 12mo. Pages xlv + 473 + ix + 431. Col. pll. 20; numerous text-cuts. Price, \$3.

The publication of an edition of Nuttall at a price which places the admirable bird

biographies of this writer within the reach of every one should be a cause for rejoicing among all bird lovers. This is a reprint of the second edition of the two-volume edition annotated by Montague Chamberlain and published in 1896. The few western species included in the original (1832) edition have been excluded, but the title has not been amended accordingly, and one might suppose that the book dealt with all the birds of the United States rather than those east of the Mississippi. The illustrations include reproductions of drawings by Audubon, Wilson, Ridgway, Seton and others. The wood-cuts are still good, but the process plates show the results of wear. The color-work evidently does justice to the originals and is good when they are. The chestnut-breasted Tufted Puffin could well have been spared; but one can afford to pardon all shortcomings in the illustrations for the pleasure of having the text.—F.M.C.

MY WOODLAND INTIMATES. By EFFIE BIGNELL. New York: The Baker and Taylor Company. 16mo. xi + 241 pages.

Mrs. Bignell's text, given in the 'Foreward,' reads: "In writing the following sketches, I have had in mind all to whom such simple thoughts and quiet experiences might appeal," and she has assuredly been more than usually successful in imbuing the written page with the spirit of out-of-doors. Her birds are alive and in their haunts as a part of the nature with which she evidently has such keen and tender sympathy. Not only should this book fulfil its author's dearest hope of carrying "restful little messages" to "some one in sick-room or city pent," but it should also bear a message to those whose eyes are closed to the beauty and interest in the common everyday things about us.—F. M. C.

The Ornithological Magazines

THE AUK.—The April 'Auk' contains a number of readable articles both popular

and scientific. One of the most noteworthy is by W. H. Fisher, on 'Preserving Equilibrium by the Use of One Wing.' An accompanying half-tone shows a House Finch balancing on a window-sill, and, although independent action of each wing in flight has long been more than suspected, it has remained for the camera, quicker far than the human eye, to record the actual use of one wing. Among the longer articles are two annotated lists, one by M. L. Ray, on the land birds of Lake Valley, California, the other by R. E. Snodgrass, on those of Central Washington; while J. L. Bonhote writes on 'Bird Migration at some of the Bahama Light-houses.' It may be said, in passing, that such photographs of scenery as accompany Mr. Ray's list are much to be commended. They are, in a way, far more instructive than merely views of nests or eggs taken at such short range that no idea of the surrounding country can be gained.

John N. Clark, recently deceased, takes up 'The Domestic Affairs of Bob-white,' and in his pleasant style tells us of a male bird that assumed all the responsibilities of incubation and subsequent 'nursery duties,' whilst his mate, apparently, was leading about an earlier brood. The food, rather than the 'Food Habits of some West Indian Birds,' is discussed by B. T. Bowdish; H. W. Henshaw writes on the 'Occurrence of the Emperor Goose in Hawaii,' and the systematist may feast upon 'A Review of the Genus *Catherpes*,' by H. C. Oberholser. In the department of General Notes we are glad to learn that the supposed bill of a Tern found in an ancient shell-heap proved to be a spine of the dogfish, and commend Dr. Townsend for his conservatism. Prospective contributors to the pages of the 'Auk' will do well to read on p. 234 'Some Suggestions,' lest they feel aggrieved if their MSS. are returned to them.—J. D., Jr.

WILSON BULLETIN.—No. 42 of 'Wilson Bulletin' is the initial number of Volume X, and contains much of interest. The progressive advancement of the Bulletin shows that the management is wide awake

and ready to make any change in detail that may improve its appearance or add to the value of the contents. The editor states that the chapter, by unanimous consent, will be reorganized under the name of the Wilson Ornithological Club. A heretofore, it will remain a corresponding organization, but may at any time hold annual meetings when such a course seems feasible. The principal function of the Club will continue to be the study of the life-histories of birds, but members have very wisely decided to use specimens whenever such a course would add to the value of their investigations. They expect to exert all their influence toward a sane policy of protection everywhere and at all times. This expression of policy is commendable, as it tends to show that the Club is composed of material that will not tolerate the prostitution of ornithological science by maudlin sentimentality.

The following are the titles of the leading papers: 'Notes on the *Leucostictes*,' P. M. Silloway; 'The Best Place of All,' Rebecca M. Leete (this article describes a favorite resort for bird observations near her home); 'The *Motacillidæ* of Germany,' W. F. Henninger; 'The Yellow-throated Vireo,' J. Warren Jacobs; 'Notes on the Winter-Birds of Wayne county, Mich.,' B. H. Swales; 'A Few Additional Notes on the Flicker,' F. L. Burns; 'The New Year's Day Bird Census,' Lynds Jones. Alex. W. Blain, Jr., desires information of any sort concerning the Great Blue Heron, and Lynds Jones wants the same character of material on the Mourning Dove. This data is to be used in the preparation of bulletins.—A. K. F.

Book News

The Superintendent of Public Education of the State of Wisconsin issues, as usual, an elaborate Arbor and Bird Day Annual.

Leaflet No. 30 of the Home Nature-Study Course, of the College of Agriculture, of Cornell University, is in part devoted to the Woodpeckers. It is edited by Mrs. Anna Botsford Comstock, and illustrated by figures of the Downy Woodpecker and the Yellow-bellied Sapsucker by Fuertes.

Bird-Lore

A Bi-monthly Magazine

Devoted to the Study and Protection of Birds

OFFICIAL ORGAN OF THE AUDUBON SOCIETIES

Edited by FRANK M. CHAPMAN

Published by THE MACMILLAN COMPANY

Vol. V Published June 1, 1903 No. 3

SUBSCRIPTION RATES

Price in the United States, Canada and Mexico twenty cents a number, one dollar a year, postage paid.

Subscriptions may be sent to the Publishers, at Harrisburg, Pennsylvania, or 66 Fifth avenue, New York City.

Price in all countries in the International Postal Union, twenty-five cents a number, one dollar and a quarter a year, postage paid.

COPYRIGHTED, 1903, BY FRANK M. CHAPMAN

Bird-Lore's Motto:

A Bird in the Bush is Worth Two in the Hand

DURING May, June and July the editor expects to be a-field. At times he hopes to be beyond the reach of mails, and correspondents will therefore kindly pardon delayed answers to their communications.

DR. THOMPSON'S study of the Terns of the Tortugas, with Dr. Mayer's admirable photographs, is not only a valuable addition to the life-history of the species treated, but it is an important contribution to the data of bird migration.

Continued residence as naval surgeon in the Tortugas gave Dr. Thompson an exceptional opportunity to learn the times of arrival and departure of these summer resident Terns, and to observe certain significant events evidently related to the times of their coming and going.

He confirms the statement that the birds return to their breeding grounds each year at about the same time, and that all those of the same species arrive within a few days after the vanguard; but adds, as new information, the fact that the day after the arrival of the earliest birds, nest-building is begun, and within a week eggs are laid.

Here, then, with no climatic complications, is an instance of migration to a regularly frequented breeding range, with the impelling cause so obviously a desire to

reach a place in which the young may be reared, that the nest-building is begun almost as soon as the birds reach the breeding ground. The phenomena in the bird's cycle of development, of which we have spoken in the papers on the nesting season, here succeed one another with such rapidity that the relation becomes more than usually apparent; migration, mating, nest-building and egg-laying all occurring within a period of little more than a week.

No less interesting are Dr. Thompson's records for the end of the nesting season. When the object for which the birds came is accomplished, and the young are able to fly, there is no lingering. The departure is as sudden as the arrival, and within a day or two the birds have gone; scattering, doubtless, over the Caribbean and adjoining waters wherever they find good fishing; but in due time to receive an inward, physiological prompting, which will, at the proper season, carry them back to the nesting ground.

ON ANOTHER page we print an agreement which has already been entered into by the American Ornithologists' Union and a number of Audubon Societies, while other Audubon Societies have it under consideration.

From the practical point of view the terms of this agreement appear to be exceptionally favorable to the cause of bird protection. For the first time in the history of the millinery trade an opportunity is afforded to extend the protection now given American birds to many species of foreign birds, including Gulls, Terns, Grebes, Herons, Hummingbirds and song-birds; while the traffic in aigrettes, which sentiment has thus far not perceptibly affected, will cease.

There is, it is true, a moral aspect to this question, and it is possible that some members of the Audubon Societies will refuse to endorse an agreement in which they are called upon to sanction, even passively, the trade in feathers. But they should also consider the moral responsibility of denying to foreign birds the protection, so far as their use in this country is concerned, which this agreement offers them. It seems to us that this proposition is deserving of a three years' trial.

The Audubon Societies

*"You cannot with a scalpel find the poet's soul,
Nor yet the wild bird's song."*

Edited by MRS. MABEL OSGOOD WRIGHT (President of the Audubon Society of the State of Connecticut), Fairfield, Conn., to whom all communications relating to the work of the Audubon and other Bird Protective Societies should be addressed. Reports, etc., designed for this department should be sent at least one month prior to the date of publication.

The Milliners Again

There has always been a perfectly natural antagonism between the millinery trade and the State Audubon Societies. At the present time, however, it seems probable that a better understanding will be brought about by the broader-minded and more conservative element in both bodies.

The general feather trade, legally, if not ethically, was for so long a time legitimate that, like the slave trade, it could not be abolished without friction. There are those in the trade who would not hesitate to violate the law if possible, but there are others who honestly desire the protection of information, that they may continue their business in accordance with the new laws, and it is these that bird protectors should be willing to meet in a spirit of fairness.

The agreement between the members of the Millinery Merchants' Protective Association of New York and the Audubon Society of the State of New York, printed below, is the initial step in this effort for mutual understanding, and we urge all the state societies to give this agreement their serious consideration; the societies having concurred in it at the date of writing being New York, Pennsylvania and Wisconsin.

It is, of course, conceded that the most satisfactory way to kill the traffic in plumage would be to stop the demand; but next to this in importance comes the regulating of the supply in accordance with the well-digested laws now prevalent in many states; and we should not imperil our influence as logical bird protectors, or boycott legitimate industry, by raising a hue and cry at the use of the feathers of food birds for millinery purposes. Our business is to make sure that only such feathers are marketed as the law allows, therefore sincere coöperation on the part of the best class of feather traders can but be mutually

advantageous, for they already recognize that any false step on the part of their less scrupulous associates will simply serve to their own disadvantage, by fanning the flame of the torch of public opinion, which, backed by legislative authority, is now well ablaze; thus, by working for themselves they coöperate with us.—M. O. W.

Agreement Between the Members of the Millinery Merchants' Protective Association of New York and the Audubon Society of the State of New York.

The members of the Millinery Merchants' Protective Association hereby pledge themselves as follows:

To abstain from the importation, manufacture, purchase or sale of Gulls, Terns, Grebes, Humming-birds and song birds.

To publish monthly in the Millinery Trade Review, a notice informing the millinery trade in general that it is illegal to buy, sell or deal in Gulls, Terns, Grebes, Humming-birds or song birds, and that no means will be spared to convict and punish all persons who continue to deal in the said prohibited birds.

To notify the millinery trade by printed notices, as to what plumage can be legally used.

To mail printed notices to all dealers in raw materials, importers and manufacturers of fancy feathers, and the millinery trade in general, that all violations of the law will be reported to the proper authorities.

IT IS FURTHER AGREED on the part of the Millinery Merchants' Protective Association, that on and after January 1, 1904, the importation, manufacture, purchase or sale of the plumage of Egrets or Herons, and of American Pelicans of any species, shall cease, and the said birds shall be added to the list of prohibited species mentioned above.

IT IS UNDERSTOOD AND AGREED, that the restrictions referred to in this agreement as to Gulls, Terns, Grebes, Herons and Humming-birds, shall apply to the said bird irrespective of the country in which they may have been killed or captured.

The Audubon Society of New York State, on its part, hereby agrees as follows

To endeavor to prevent all illegal interference on the part of game wardens with the millinery trade; to refrain from aiding the passage of any legislation that has for its object restrictions against the importation, manufacture or sale of fancy feathers obtained from domesticated fowls or of the plumage of foreign birds, other than those specifically mentioned above.

IT IS AGREED by each of the parties that this contract shall remain in force for a period of three years from the date of its execution.

To show how far-reaching the agreement between the members of the Millinery Merchants' Protective Association of New York and the Audubon Society of the State of New York really is, it is only necessary to call attention to the following:

While it was not made a part of the formal agreement, yet the members of the committee representing the Audubon Society promised to identify any birds or plumage submitted by the milliners.

The first specimen submitted proved to be an adult Cattle Heron (*Bubulcus lucidus*) in full breeding plumage; it will be one of the prohibited birds after January 1, 1904.

In this connection it is interesting to quote the following from 'Bird Notes and News,' the organ of the British Society for the Protection of Birds, the first number of which appeared April, 1903.

"Killing Down the Buff-Backed Heron. In the last issue of the journal of the Khedivial Agricultural Society, attention is called, apparently none too soon, to the great diminution in the number of useful birds in the neighborhood of Cairo. The writer (Dr. Innes) tells of the 'almost total extermination' of the Buff-backed Heron (*Ardea bubulcus*), which he calls the Cattle-egret, from its habit of attending cattle and relieving them of insect pests. Birds of this species follow the plow and pick up mole-crickets and larvæ. Captain Shelley says that they cause 'great havoc among the locusts and other insects'. They were so common in the past, and did so much good that many travelers confounded them with the Sacred Ibis. Dr. Innes attributes the reduction in the numbers of this useful species to 'so-called sportsmen, who kill for the sake of killing'."

—Hy. S.—*From the Field*, Feb. 14, 1903.

Bird-Protection Abroad—II. South Australia

No better evidence of the world-wide interest in bird-protection can be found than in the laws of the various British colonies. Even in far-distant Australia so much progress has been made in legislation of this kind that the 'Bird Protection Acts' of some of the states compare favorably with those of any country in the world. In South Australia, the second in size of the Australian states, game-protection has received attention for thirty years or more, and at least four statutes relating to birds have been enacted; viz., the Game Act of 1874, Act No. 337 of 1885, the Game Act of 1886, and the Birds' Protection Act of 1900. The last two will suffice for comparison with the laws of our own country.

Under the game act of 1886 all birds were divided into two categories: 'Special game,' including Pheasants, Partridges, Grouse, California Quail and White Swans; and 'game,' including other indigenous or imported birds. Special game was protected from September 1 to April 1, and game, during close seasons, beginning on the first of June, July or August and extending, in each case, to December 15, thus covering only the breeding season. Nine groups of birds were excepted from protection. These groups were Crows, Black Magpies, Wattle Birds, Silver Eyes, Yellow-crested Cockatoos, Rosella Paroquets, Sparrows, Snipe and Cormorants. It is interesting to note that neither Hawks nor Owls, which are so frequently excepted in our laws and which at this time (1886) were being exterminated in some parts of the United States through bounty laws, were given the same protection as other birds in South Australia. The game act of 1886 prohibited purchase, sale and possession, as well as killing, and, like the law of New York, provided a double system of penalties for violations of its provisions. The fines, not exceeding £5 for each piece of special game, and £2 for each piece of game, were supplemented by fixed amounts representing the value of the birds—£2 in the case of special game and 5 shillings in the case of ordinary game; so that the maximum penalties for a single bird might range from \$11 to \$35.

The Birds' Protection Act of 1900 was a marked advance over the act of 1886, and in several respects bears a close resemblance to our A. O. U. model law, especially in grouping the birds under three 'schedules.' Birds mentioned in the first schedule were protected throughout the year; those in the second schedule (corresponding to our game birds) were protected during certain close seasons, while those in the third schedule were excepted from protection.* In order to mention by name the various birds which were protected throughout the year and still avoid an unduly long list, Gould's 'Handbook to the Birds of Australia' was adopted as the official guide, and the common name, accompanied by the family designation and the inclusive species numbers used by Gould, were given in each case. It is interesting to notice that this list contains, among others, Owls, Ibises, Herons, Egrets, Sea Gulls and Terns of all species. Birds, native or imported, which were not mentioned in the first or third schedules were included with game birds, and accorded a special close season extending from July 1 to December 21. The excepted list in the act of 1886 was modified by omitting Black Magpies and Sparrows and adding Hawks, English House-Sparrows, English Starlings and English Chaffinches. Why the Snipe was excluded from protection is not evident, but the fact that three of the other ten groups were introduced birds (two of which are now excluded by law from the United States) is a significant commentary on ill-advised efforts at acclimatization of foreign birds. Not only the English Sparrow and the Starling, but even the Chaffinch has increased so rapidly in South Australia as to become injurious and is regarded as unworthy of protection.

Like the A. O. U. law, the Birds' Protection Act prohibits possession, sale and export of birds or eggs, provides for keeping birds in captivity and for collecting for scientific purposes under permits issued by the Commissioner of Crown Lands on the recommendation of the Director of the South Australian Museum. In some re-

spects it goes even farther than our laws, for it prohibits sale or offering for sale "any skin or feather of any protected bird, or any article made therefrom, or in which the same shall be used," and makes refusal, on the part of any person violating the law, to disclose his true name and address, punishable—like other offences against the act. It also contains an interesting provision, to the effect that the governor may, by proclamation published in the 'Government Gazette,' "make an order declaring that any portion of the Crown lands, or any public reserve, or the seashore or any part thereof, shall be a bird-protection district."

It is evident that laws like these could not have been passed unless there was a strong local sentiment in favor of bird-protection, and this is also shown by the fact that, upon the passage of the act of 1900, large hand-bills, containing a list of the protected birds, were distributed, through the Minister of Education, to all the public schools, and, through the Commissioner of Crown Lands, to all the post offices, police stations, institutes and district councils. This favorable public sentiment has been largely created through the efforts of the Society for the Protection of Birds and the South Australian Ornithological Association. The former, a branch of the English Society for the Protection of Birds, was founded in 1894, and in 1901 had a membership of 1,033. Its headquarters are at Adelaide, and its secretary is Mrs. John Playford, 'The Willows,' Mitchan, Adelaide, South Australia. It has issued seven annual reports showing the progress of its work. The South Australian Ornithological Association, while primarily devoted to advancing the interests of ornithology in general, also devotes attention to bird-protection, and at the second annual meeting of the Australian Ornithologists' Union, in November, 1902, took an active part in the effort to secure the enactment of more uniform bird laws throughout southern Australia. Nowhere in the southern hemisphere has more active interest been displayed, and nowhere have more practical results in bird-protection been accomplished, than in South Australia.—T. S. PALMER.

* Upon proclamation of the governor, any birds could be transferred from one schedule to another.



Bird = Lore

A BI-MONTHLY MAGAZINE
DEVOTED TO THE STUDY AND PROTECTION OF BIRDS

OFFICIAL ORGAN OF THE AUDUBON SOCIETIES

Vol. V

JULY — AUGUST, 1903

No. 4

The Bird-Life of Cobb's Island

BY FRANK M. CHAPMAN

With photographs from nature by the author

THE Atlantic coast, from New Jersey to North Carolina, is bordered by an outlying chain of islets. Many of them are mere sand bars, more or less grown with coarse grasses, and, on their western sides, fringed by marshes which reach out into the bays separating them from the mainland.

Useless for agricultural purposes, these islands have a high commercial value only when they have become the sites of summer resorts; but when they have not suffered from an irruption of hotels and cottages they are, as a rule, tenanted only by an occasional fisherman or the crews of life-saving stations, whose presence does not materially alter their primeval conditions.

Lacking the natural foes of birds which exist on the mainland, these barren islets make ideal breeding-grounds for birds, who find on them the isolation their peculiar nesting habits require, while the surrounding waters furnish them an abundant supply of food.

In all this chain of bird homes probably none has been better known to ornithologists than Cobb's Island, on the Virginia coast, north of Cape Charles. Seven miles long, it has been occupied by man only at the extreme southern end; a small sportsman's club-house and a life-saving station being now its only dwellings.

Twenty years ago Willet and Least Terns, in large numbers, and Royal Terns bred on Cobb's Island, but to-day the former is rare while the two latter are unknown, and there are left as breeding birds Common, Forster's, and Gull-billed Terns, Laughing Gulls, Skimmers, Oystercatchers, Wilson's Plovers, Clapper Rails and Seaside Finches. Willet have disappeared before spring shooting in what was actually their nesting season. The Least Terns fell victims to the milliners, who greatly decreased the other species of Terns nesting on the island. The former

captain of the life-saving station told me of 1,400 Least Terns being killed in one day; while the present captain of the station and Mr. E. B. Cobb, owner of the island, informed me that when Terns were first killed for millinery purposes they, with another man, killed 2,800 birds



BEACH AT COBB'S ISLAND, SHOWING SKIMMERS ON NEST
IN THE DISTANCE

shown herewith. Least Terns have been included in it, although the species is now extinct on the island, with the double object of showing the island-life as it was and of emphasizing the cause of this bird's annihilation.

Several hundred common Terns were observed and the species was said to be increasing. None of the few young seen had passed out of the downy plumage. Of Gull-billed Terns not more than eight pairs were noted. Several nests were found containing eggs, but no young were seen. Forster's Terns were present in small numbers nesting out on the marsh. A pair of Oyster-catchers, one pair of Willet, and a pair of Wilson's Plover had nested successfully earlier in the season.

Laughing Gulls were breeding in the marsh in large numbers, making their nests on piles of grass and weeds. The nests, as a rule, contained eggs, but in some cases young were found, and two birds a week or more old were found running about on the beach.

Black Skimmers proved to be the most abundant, as they are the most interesting birds on Cobb's Island, several thousand pair doubtless nesting there. Fortunately their plumage has never been fashionable and to that fact may be attributed their happy escape from the fate of the more daintily colored Terns. The Skimmers alone make Cobb's Island a worthy Mecca for bird students. Singular alike in structure and in habit, remarkable

in three days on and near Cobb's Island. The birds were packed in cracked ice and shipped to New York for skinning; ten cents being paid for each one.

July, 1902, I visited Cobb's Island to secure data, photographs and material to represent its bird-life in a group at the American Museum of Natural History. A photograph of a portion of this group is

graceful in flight, feeding most actively after dark when the influences of the night lend a weirdness to their calls, these birds are unusually interesting and attractive.

They breed on the beach in almost continuous colonies from a point about a mile and a half north of the life-saving station nearly to the north end of the island. Four eggs are laid in a depression in the sand made by the bird by squatting close and turning around, boring, as it were, a nest cavity. Like most conspicuous ground-nesting birds the Skimmers leave their nest at the first indication of danger and one's first knowledge of their presence is gained from a flock which, rising far ahead of one, comes charging down the beach with more or less regularity of formation, trumpeting loudly. Doubtless this habit accounts for the belief of various ornithologists, as well as of the baymen, that the Skimmer never visits its nest during the day.

It was not long after I had converted my umbrella blind (see June BIRD-LORE) into a grass-covered sand dune that the birds began to return and, alighting with waddling steps, walk toward their nests and settle themselves on their eggs with a chuckling note apparently indicative of satisfaction. At times the much larger male bird would stand beside his mate while she attended to the duties of incubation.

When a young bird was hatched the parent at once took the egg-shell whence it had emerged and carried it far up the beach; an interesting habit evidently of more importance to a tree-nesting bird which would avoid advertising the young bird above by the egg-shell below, than to a ground-nesting species. Possibly it may indicate a former arboreal habit on the part of the Skimmer (see June BIRD-LORE).

The young are born covered with a sandy-colored down which is dry at the end of two hours, when they are sufficiently strong to crawl from the nest to the shelter of a neighboring weed, which, in the absence of the parent, they seem to seek instinctively. At this time if the sun be shining the prolonged absence of the parent will



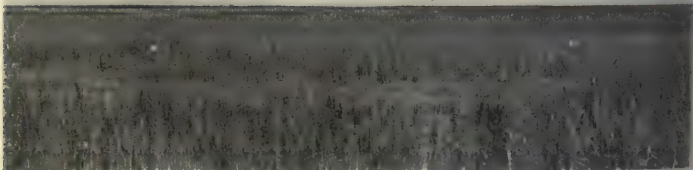
SKIMMER ON NEST



GULL-BILLED TERN ON NEST

mean death to the young through exposure to the sun's rays, showing how baseless is the theory that the parent comes to the nest only at night. Even during incubation it is probable that the parent's presence is necessary to protect the egg from excessive heat.

✧ Young Skimmers, like many young birds, squat and remain motionless in the presence of danger, but the manner in which the Skimmer renders



MARSH AT COBB'S ISLAND, SHOWING LAUGHING GULLS ON THEIR NESTS IN THE DISTANCE

itself nearly invisible on a bit of sand, where there is no object with which it might be confused, is especially striking. In the newly hatched young the mandibles are of equal length and the characteristic prolonged lower mandible does not appear to be fully grown until after the bird takes wing. This may be considered as evidence that this specialized character has been developed late in the history of the species, or it may be a correlation in growth which defers the perfection of an organ until it can be successfully employed. Certainly without ability to fly a Skimmer could not 'skim,' as with the longer lower bill cutting the water it takes food from the surface.



LAUGHING GULL ON NEST

Until, therefore, the bird can fly its bill enables it to pick up such objects along the shore as might be desirable for food.

From my blind among the Skimmers I could look out over the marsh where the Laughing Gulls nested. In the morning light the breasts of these birds turned toward the east looked like great white flowers with which the marsh was dotted. They were photographed without difficulty by erecting bundles of grass on tripods near their nests one evening and replacing them with grass-covered cameras the following morning. Exposures were made with a thread run to the blind (which now was made to do duty as a musk-rat's nest) a hundred and fifty feet away. The first Gull returned to its nest within five minutes after the photographic apparatus was arranged.

An A. O. U. warden on Cobb's Island protects the birds from man,

but is powerless to preserve them from what, in the end, may prove a far more disastrous enemy. To kill the meadow mice which destroy the rigging and sails of his boats, Mr. Cobb has brought cats to the island. As usually happens when these creatures find they can fare better by relying on their own efforts than on their supposed owner's care, they have become self-supporting and live largely on the birds of the beach. Whether in the winter the food supply is so diminished that their numbers become correspondingly decreased remains to be seen; but, at the best, the existence of this predaceous animal among birds whose young are at its mercy must be viewed with the utmost concern by every one interested in the preservation of the bird-life of Cobb's Island.

In the Haunts of New Zealand Birds

BY CHARLES KEELER

THE good Bishop of Dunedin takes a just pride in his extensive gardens. They are located well out of the city confines, occupying a charming natural gully which has been preserved with all its wealth of native verdure. A stream winds through it; a waterfall splashes down upon strange and beautiful ferns; pittosporum trees reach their tall, slender branches into the light, and in the damp solitude grow lofty tree-ferns, giving the place the aspect of a forest of the Carboniferous period. The Bishop escorted me over his domains, and in his excellent company I first made the acquaintance of a number of the New Zealand birds.

As we strolled through the wealth of tropical-looking foliage, a sprinkling of sunlight illumined the shadowy glen where a whisper of wind was audible amid the plumed tree-ferns and the scraggly boughs of the fuchsia trees. The voices of many birds rang in the solitude,—the liquid gurgle of the Bell-bird, the call of the Fan-tail, the plaintive ditty of the Gray Warbler, sweetly mingling with the silver cry of the cascade leaping over the mossy rocks, and the purling of the streamlet between its ferny banks.

The Bell-bird is an unassuming vocalist, about the size and build of an Oriole and colored in general an olive-green, brightening to a yellowish on the sides. A dark purple hue suffuses the head of the male, while the under parts are plumbeous in tone. The female lacks the purple and has a fine line of white on each side of the neck, reaching from the corner of the mouth. The male bird would pause now and again in its active, restless search for insects in the fuchsia bark, to utter its rich, melodious warble which reminded me somewhat of the strain of our western Meadowlark. I also heard a single, bell-like note which, when uttered by a number of singers in concert, had something of the

effect of a chime of tiny silver bells. This favorite of New Zealand's songsters is a member of a family well represented in Australasia and Polynesia, the Melaphagidæ, or Honey-eaters, a group characterized by the sharp, slender, moderately curved bill and grooved tongue.

Of other native birds, none interested me more than the Fantails. New Zealand claims two of these bird mites, members of the Old World Fly-catcher family,—the Pied and the Black Fantail. It was the latter bird which I encountered in the Bishop's grove—a tiny puff-ball with expanded wings and tail, slaty black in color, with a dark brown tinge on the wings and back and a touch of white on the ear coverts. A squeaky, rickety call served in lieu of song, but the little creature was vain as a Peacock, and strutted about with its conspicuous tail expanded to the fullest extent. If anything could make me believe in disembodied spirits entering birds and seeking to converse with men as they do in the myths of eld, it would be the actions of the Black Fantail. Flitting through the air with short, jerky motions, hovering about and following as if determined to alight on my shoulder, calling in its friendly, though unmusical tones, one of these little creatures seemed so determined to communicate with me that it became positively uncanny. Although, on many future occasions, I had opportunity of observing the extreme tameness of the Fantails, I never saw another one so persistent in its efforts to establish friendly relations.

The little Gray Warbler, which also attracted my attention amid the Bishop's tree-ferns and pittosporums, is one of the most fascinating creatures in the New Zealand groves. I had not been in the colony a day when, in an Auckland garden, a note reached my ears, so plaintive and tender, so varied and sustained, that I was incredulous about its being the voice of a bird. It seemed almost weirdly human, yet so fine and dainty, so slight and timid, as to resemble the piping of a woodland elf rather than the whistle of a bird. I was unable to detect the minstrel at the time, but in the Bishop's grove I traced it up and found a diminutive little creature most unostentatiously dressed in grayish brown above and paler gray below, with a trace of yellow on the abdomen. It was an alert, restless bird, flitting amid the foliage and uttering a fine, high twitter. Every now and then it would sing that wonderful song like some timid creature experimenting with a quavering, high-pitched pipe on various notes of the scale.

The Gray Warbler belongs in the same family with the Nightingale and other European songsters—the Old World warblers—a group which is not represented in America. It builds a wonderful pensile nest not unlike that marvel of bird-architecture, the home of the California Bush-tit, but with a larger entrance. The Maoris are fond of this little creature and have many songs and traditions in which it figures.

The South Island Tomtit was another haunter of the Bishop's fuchsia trees and veronica bushes. It, too, is a member of the Old World Warbler family—the Sylviidæ—so its name of Tomtit is misleading. Although not brilliantly colored, the male is more showy than many of its compeers in the New Zealand bush. Its head, throat and back are deep black, and its breast pale yellow. A fine white dot marks the base of the upper mandible, while conspicuous spots of the same vary the black of the wings and tail. The female is modestly clad in plain olive-gray, with white wing-bars and grayish breast. As one of these little fellows flitted about, briskly gleaning the leaves for insects, I heard its high, nervous call frequently uttered.

In company with the native birds in the Bishop's grove, I noticed several European species which have been introduced by the colonists. The European Goldfinch twittered from tree to tree, the Thrush of England called from its shady retreat, and a European Blackbird whistled as cheerily as if home were not way off in the antipodes.

After this peep at the sylvan-life of New Zealand, I felt that I had made a number of new friends, and, on exploring the rugged mountains which hem in that austere lake of the far south, Wakatipu, a wild retreat in the heart of the island, I rejoiced to find them there to greet me. Even in this mountainous wilderness many introduced birds had made themselves at home. The European Goldfinch, Starling and Blackbird were abundant about the sparsely settled country back of the village of Queenstown, and California Valley Quails called blithely in the scrub manuka thickets, reminding me of home.

The South Island Tomtit, of which I caught but fleeting glimpses in the Bishop's grove, was abundant here, and so tame that I had many opportunities of observing its ways. It is a jaunty little fellow with a big head and perky manners. Now, for an instant it sits in an attitude of repose, with wings a-droop; the next minute it is all animation, the wings flirt coquettishly and the tail is held erect, wren-fashion. A fine, squeaky call-note is frequently uttered from the fence-rail by the roadside or from a dead weed-stalk in the adjacent field. Now and then it darts into the air after an insect, snapping its bill after the manner of a Fly-catcher.

Another common bird in the Lake Wakatipu region, and, as I discovered later, in many other parts of New Zealand, is the little Silver-eye. It is a member of the same family as the Bell-bird—the Honey-eaters, although in superficial appearance it looks like one of our olive-green Vireos, or Warblers. The breast is gray and a white ring encircles the eye. These little birds emigrated to New Zealand from Australia within historic times, a great bush-fire apparently having driven them out to sea. They frequent the manuka and thorn scrub, uttering an emphatic high *cheriee* of a call-note.

Amid the forests of beech or fagus which clothe the mountains about the head of Lake Wakatipu, I found an entertaining bird company assembled. In walking up a gorge to a charming mountain lakelet, known as Rere Lake, which nestles amid the beech-clothed mountains, I heard the liquid tones of the Bell-bird, the timorous fluting of the Gray Warbler, and the lisping call of the South Island Titmouse. Dodging about in the clean foliage of the young beech trees on the margin of the lakelet, was a chunky little bird with a big head, a fine bill, stout legs and a stub tail. It was not over four inches long, and was colored an olive-green on the back and gray on the under parts. The sides and upper tail-coverts were yellowish green, the top of the head was dark brown and the sides of the head were black, with a conspicuous line of white above the eye. I soon recognized this odd little wood-elf as the so-called Bush-wren, although, as a matter of fact, it is not a Wren but an Ant-thrush, which, again, is not a Thrush but a Pitta,—one of a family of birds quite characteristic of the Australasian region. So much for popular names! When colonists settle in remote parts of the earth, they carry with them the familiar names of places, of birds and of flowers, applying them indiscriminately to the first objects that offer the slightest pretext. Thus it happens that the Robins of New Zealand are really Old World Warblers, the Tomtit belongs in the same family, while the Bush-wren is a Pitta.

Another interesting bird of the beech forests is the Pied Fantail. A diminutive creature, about the size and build of the Black Fantail, whose acquaintance we made in the Bishop's grove. The Pied Fantail is so lively and tame that the traveler in the most remote wilderness cannot feel lonely in its company. Listen to its high, squeaky *queep! queep! queep!*—varied now and again by a still higher creaky squeak of a song. It is so whole-souled, so frankly unmelodious, so full of vain enthusiasm for unattainable song, that the listener is quite carried away by it. Then, see the little thing flitting about in the beech foliage, with quick jerks to emphasize its call, the showy tail expanded and erect, and the wings coyly drooping. It is an energetic, bustling, snappy creature, nervous and bristling. A grayish brown-black and pale buffy breast are scarce the colors for so vain and ambitious a mite, but the black and white of the head are as showy as a harlequin's mask, while the long tail is similarly varied. The Fantails, like other members of the Fly-catcher family, live chiefly on such insect prey as they can capture on the wing.

Native birds are by no means abundant in New Zealand, and the traveler must journey far from civilization to discover many species. While riding horseback over a wild mountain trail in the Routeburn Valley, some miles inland from the head of Lake Wakatipu, I saw, for the first and only time, the Yellow-head, popularly known to the colonists as the Wild

Canary. It is one of the Grass Warblers, a very loosely defined family of Old World birds. As its name implies, the bright yellow head is a distinctive mark of recognition. The yellow extends over the throat and under parts, while the back, wings and tail are olive-brown in tone. I had no opportunity of observing a near relative of this species, the White-head, which, though nearly extinct, may still be occasionally encountered in the North Island.

On this same ride into the heart of the Routeburn Valley, through forests of wind-swept beeches, with lofty peaks rising on either hand, in whose drear hollows glaciers crawled from summits of perennial snow, I saw the famous Kaka Parrot and heard its wild, shrill call. It is a large bird, a foot and a half long, of an olive-brown color, suffused with dark red and varied here and there with a tinge of yellow. This bird, which, before the advent of the white man was a vegetarian, has changed its habits with the introduction of sheep, having discovered that kidneys are excellent eating and may be secured with the aid of its sharp curved beak. In consequence of this Epicurean taste for sheep's kidneys, the colonists are waging incessant warfare on the Kaka, and the bird has become very rare except in remote solitudes.

Another member of the Parrot tribe, the Orange-fronted Parrakeet, crossed my path and gave me a glimpse of his showy plumage. He was dressed in a regulation parrot-green, with an orange band on the forehead and a stripe of crimson across the head. The bright blue of the flight-feathers completed his coat of many colors, making him altogether one of the most gaudy birds of all New Zealand. The Kakapo, or Owl Parrot, occurs also in this region, but is so rare that extinction threatens it in the near future. Although provided with wings, the flight muscles are so inadequately developed that the Kakapo is unable to lift itself from the ground. It is about the size of one of the larger Owls, and of a dull mottled-green color. Like the Owls, it is nocturnal in habit, and in structure differs so considerably from all other Parrots that systematists have placed it in a separate family.

Even in such mountain fastnesses as the country about the head of Lake Wakatipu, some of the most interesting birds of New Zealand can seldom be seen. The Kiwis, or Apteryxes, several species of which were once abundant in the ferny-jungles, are becoming very scarce despite their shyness and nocturnal habits. They are quaint creatures without wings, with long, delicate snipe-like bills, and feet that might belong to a fowl. They are allies of the Ostrich family and in some respects are the lowest of living birds. Four species of Kiwis still exist, but they are daily getting nearer to extinction. Such is also the case with the interesting flightless Wood-hen, or Weka, a curious member of the Rail family, once abundant in the wooded parts of New Zealand. The great family of Wingless

Moas, including such immense creatures as the Elephant Moa, with its enormously heavy legs and its little head reaching to a height of some thirteen feet, has become extinct in comparatively recent times, as the discovery of feathers, skin and eggs attests. An interesting chapter in the history of living forms is furnished by the numerous flightless birds of New Zealand. Isolated upon these islands, without enemies save a few Hawks and Owls, with little to stimulate them to put forth their best efforts, they gradually lost the power of flight through disuse of their wings and became an easy prey to the rude implements of savage men.

Let us now leave these mountain wildernesses of the far south where the wild Black Swans of Australia utter their hoarse, high trumpeting, as they fly over the lake, and the showy Paradise Ducks call in tones of exultant freedom, wandering amid the grassy mountain meadows,—let us desert these splendid solitudes for a glimpse of the haunts of birds in the North Island. I have in mind a charming retreat on the shore of Port Nicholson, just opposite the city of Wellington, where the native bush has happily been preserved, and where birds still gladden the woodland with their calls. Near the bay shore I caught the liquid roll of the Bell-bird from the hillside; the Pied Fantail fluttered merrily about me, and the tremulous pipe of the Gray Warbler came plaintively from the scrub manuka and bunches of toi-toi grass. Here also the Tui, or Parson-bird, sang its loud and varied strains. I could never be sure of the song of this species, for it mimics all the birds of the grove. The Tui, which belongs in the same group of Honey-eaters in which we found the Bell-bird and Silver-eye, is about the size of a Blackbird. The male is of a burnished greenish black color, with white wing-patches and white tufts on the throat like a parson's collar, whence its English name. The female, which is olive-brown in color, lacks the white plumes. Turning into the thickets where the Tuis and Bell-birds were singing, I found myself in a tangle of verdure; tree-ferns with quivering fronds of green were lifted on high and drooping gracefully above the shrubbery; great beech stumps were festooned with clinging rata vines; cordylines or cabbage-trees, with pointed, ribbon-like leaves clustered in bunches on their bare trunks, combined with the other foliage to make a scene of tropic splendor.

In the bush near Masterton, situated in one of the interior valleys north of Wellington across the Rimutaka Gorge, I found some new birds, in company with many heretofore observed. The Tuis called from the totara trees, their voices mingling with the whisper of the wind in the branches; the dainty strain of the Grey Warbler enlivened the thickets, and the thick-billed North Island Thrush uttered his call note in the shrubbery. I listened here for the first time to the song of the European Skylark, and saw the ecstatic minstrel soaring and climbing until it was a mere point in the

blue, singing, the while, a clear gurgling medley of continued song, as though nothing could exhaust its vitality. The Skylark has been introduced into many parts of New Zealand and seems to prosper in the new land.

The little New Zealand Kingfisher was a common bird in the Masterton district. It is much smaller than the Belted Kingfisher of North America, and is dressed in a blue-green coat, a buffy brown vest and a white collar. Although fond of the vicinity of streams, it frequently strays to a considerable distance from any water, where it no doubt finds enough insect food to take the place of a fish diet.

Many New Zealand birds of which the traveler reads and which he fondly expects to encounter during his wanderings, are so rare or locally distributed that it is well nigh impossible to have a glimpse of them alive. For example, there is the Blue-wattled Crow of North Island, and its near relation, the Orange-wattled Crow of South Island, which must be sought in certain restricted districts. So also with the Huia, a bird even more limited in range, being found chiefly in the mountains north of Wellington. It is one of the peculiarly interesting birds of the region, and is highly prized by the Maoris, who wear its tail feathers as emblems of chieftainship. The most extraordinary thing about the Huia is the great difference between the bill of the male and the female. The former has a comparatively short, stout beak, while that of the latter is abnormally elongated, slender and sickle-shaped. It is said that the male pecks the bark, into which his inseparable companion then thrusts her beak to extract the grub. It is with pain one learns that she does not, like a good and dutiful wife, divide the morsel thus jointly secured, but swallows it entire and leaves her lord and master to forage further. The Huia is a Starling, about a foot and a half long, glossy black in color, with a broad band of white on the tip of the tail. The face is ornamented with large rounded wattles of a brilliant orange color, and the bill is light ivory in tone.

Two other members of the Starling family which still occur in restricted areas of New Zealand, are the Saddle-back, so named from the rusty patch on the back of its black body, and the Jack Bird, which is colored a dark brown, edged in places with rufous. The former is found on the Barrier Islands off the Auckland coast, in the mountains back of Wellington, and in a few districts of South Island; the latter is confined to the lonely forests of the West Coast Sounds district of South Island. They are described as noisy, eccentric birds.

Two species of Cuckoos nest in New Zealand and migrate in opposite directions for the winter. The Long-tailed Cuckoo, which is colored strikingly like the Cooper's hawk of America, spends its leisure months of travel in the South Sea Islands, while the gaudy little shining Cuckoo, with its golden-green, iridescent back and its white, green-barred breast, journeys over the waste of sea to Australia. Both species seem to have

pitched upon the tiniest and most inoffensive of birds, the Gray Warbler, to rear their unwelcome broods.

It would be quite impossible, in the limits of the present paper, to describe the great number of sea and shore birds which frequent New Zealand. There are three or four of such peculiar interest, however, that I cannot refrain from alluding to them in passing. Of these, none is more singular than the Wry-billed Plover, with its bill turned sharply to the right, as if deformed. This peculiar structure is said to be of use in getting food out from around the corners of stones on the sea-shore. The Notornis, a flightless Gallinule of giant size, is interesting on account of its great rarity, only two or three specimens having been secured. In contrast to this showy purple monster, which has become extinct through its loss of the power of flight, may be mentioned two of the most extraordinary bird travelers in the world. The Eastern Golden Plover, which occasionally visits New Zealand, nests in Siberia and Kamtchatka, while the Bar-tailed Godwit journeys northward every autumn to its summer home in the same region. New Zealand is the very center of distribution for birds of the Albatross and Petrel family, which nest upon its southern rock-bound islets and wander hence over the cold and stormy seas of those high latitudes. The group includes birds which range in size from the largest and most daring creature of flight to frail wind-wanderers scarcely larger than the swallow.

In this brief résumé of New Zealand birds, I have merely undertaken to give a few glimpses into the life of that strange and beautiful wonderland, to peer amid the tree-ferns and the beech boughs for gentle songsters, to wander in the primeval bush for an introduction to the shy creatures which haunt its shadows. If these birds are to be known, it must be done at once, for a host of relentless enemies are sweeping them from the face of the earth.



The Loggerhead Shrike in Massachusetts

BY JANE ATHERTON WRIGHT. Greenfield, Mass.

With photographs from nature by Mrs. A. T. Beals

WHILE driving through Greenfield Meadows with a friend, on July 6, 1901, our attention was attracted by a bird that flew from a growth of underbrush close beside the road to an old apple-tree about ten rods away. As it alighted on an exposed branch, we saw that it was an unfamiliar bird whose bluish gray and black markings were plainly visible.

I had so long been watching for the Great Northern Shrike, in winter, that, as a nearer view was obtained, I felt reasonably sure the stranger must be a Shrike; but a Shrike in that locality at that season of the year was a thing unknown, and creeping cautiously nearer the tree I looked more closely at the bird, which sat calmly eyeing me, apparently free from all concern. Yes, the black lores, wings barred with white, and black tail with the outer feathers white! It could be no other than a Shrike, and the Loggerhead, too, for close scrutiny showed the narrow black line at the base of the bill connecting the lores. And the flight! "A piece of black and white patchwork fluttering in the air," Olive Thorne Miller has described it. Her words returned to me, and more than ever I felt assured that by some strange chance the Loggerhead Shrike was, in truth, before me. Then from the other side of the tree appeared another of the rare beauties and without alarm scanned us curiously.

The drive home was accomplished in a marvelously short time, and, after a hurried reference to a text-book, by means of which I verified my hopes, I hastened back, fearing lest the bird should be gone; but, as we neared the tree, there, in the road beside it was a dainty little fellow clad in black and gray, who, on our approach, fluttered, hopped and tumbled toward the shelter of the apple-tree, until, when directly beneath it, a short and uncertain flight concealed him among the friendly branches.

Our caution in approaching the tree was unnecessary, for, when we were beneath it, movements here and there betokened that the tree was the hiding place of more than one fledgling; and, one by one, four young Shrike were discovered. They were, indeed, hardly distinguishable from the adult Shrikes save by their shorter wings and their inability to move about in the tree with ease.

And now for the nest, which we felt sure must be located in the tree. Carefully and slowly we looked it all over, especially that part about seven feet from the ground,—the distance my books mentioned as the usual height at which the Shrikes built,—but our efforts were in vain and the darkness put a stop to all further search.

In the next few days (during which Mr. Torrey had kindly given me the information that he knew of but one other Massachusetts record of the Loggerhead Shrike) I made diligent search for the nest, which I was positive, from the feeble efforts of the young at flying, could not be far away. It was, however, only after a week's careful and systematic search in all the trees of the neighborhood, that I discovered it in a lowly brush-heap, within ten inches of the ground. This heap of brush had served them



LOGGERHEAD SHRIKE AND ITS NESTING-SITE

as a vantage-ground, together with the neighboring fence-rails, from which they pounced on the grasshoppers and crickets which constituted their sole diet, so far as I could judge.

The nest was a bulky structure, and was composed largely of chestnut catkins, with a mingling of pieces of string, rootlets, twigs and dried grasses; while the interior was deftly lined with fern-down and other soft substances.

A curious thing about the young Shrikes was their lack of confidence in their powers of flight; for, on two occasions, by stepping boldly toward one which was feeding on the ground, I was able, literally, to run it down.

It made no attempt at flight, but hurried over the ground in a series of fluttering runs and leaps, dodging and turning with great skill whenever necessary to escape capture. On the first occasion, July 11, I was not astonished that the young Shrike in its fright forgot its newly acquired habit of locomotion; but on August 4, by pursuing the same tactics, I was able to hold one of them in my hand again, though at that time the young could not be distinguished from the adult birds when in flight.

During the month in which the family were under observation they remained within half a mile of the nesting place; finally, however, almost forsaking it, save at night, in favor of another brush-heap about a fourth



YOUNG LOGGERHEAD SHRIKE

of a mile to the south. Over the intervening fields of waving corn and grassy meadow they reigned supreme; and the grasshopper families within those limits must have been woefully decimated, for such rapacious birds were never before under my observation.

Their usual cry was harsh and unmusical; but the song, though short and broken, was soft and sweet and well worth hearing. One of the call-notes was a short whistle, very human in its tone, and really musical. When in play with each other among the branches, I often heard them give utterance to a mewling note, remarkably like that of the Catbird.

My last visit to these most interesting birds was on August 8, and on August 10 they were gone. All search for them this summer has been unavailing, and I have reluctantly come to the conclusion that their appearance in this neighborhood was an accident, and not to be repeated.

For Teachers and Students

System in Field Records

BY EUGENE MURRAY—AARON

THE plea for the ever-ready note-book and praise of the diary-keeper, so excellently set forth by Mr. Ernest Thompson Seton in *BIRD-LORE* for December, 1902, deserves careful reading and more—following the advice—on the part of many who to-day are letting the hints and whispers of Dame Nature pass by unnoted and, in many cases, not to be repeated.

But, few of us are so endowed that we can make the immediate and charming use of such notes as can Thompson Seton. Or, being entomologists or botanists, we may yet observe many a fact worthy of recording outside our fields, among the mammals, birds, or reptiles. It is the recording and keeping of such notes as these that is most likely to be overlooked by the field student; for he does not feel competent to weigh and use them himself, nor does he think it at all likely that they will be dug out of his journals by students in other branches. Therefore, he early forms the habit of forgetting those observations not of special bearing on his own chosen department. It must be that in this way many unique happenings are lost to science; or, at least, their recording is postponed to the time of some later observer.

The solution of this problem of the permanency and useability of such records is a most obvious one; yet, I find few who seem to have arrived at it. It is to be found in that greatest literary invention of the last century—the card catalogue.

Let the field worker see to it that he never goes afield without an ample supply of cards. Let these be the standard (3 x 5 inch) size, so that they will fit into any public or private card catalogue; for, if they are smaller than the cards with which they are to be incorporated they can be pasted on the larger cards, while, if larger and filled with notes to their margins their incorporation is impossible. The writer finds it convenient to have these cards mounted in tablets of 100 each, gummed at the lower edges so that the particles of adherent gum on a removed card will not be on the top or sides to interfere with the ease of handling them in the catalogue drawer.

Two dissimilar or unrelated observations should never be put on one card. Let each card be the bearer of its own story and no more; the wisdom thereof will be amply apparent to the student when their classification and filing time arrives.

All cards should be dated; the ordinary rotary rubber-dating stamp is

an excellent article for that purpose. While the impression is fresh in the mind the card headings should be written, if they record facts bearing upon the recorder's hobby. If, however, the records are of observations not likely to be of use to the recorder, but which he designs to hand over to some student who may make use of them, the head spaces of the cards should be left blank for that student's use, to be filled in as he thinks best suited to the classification of his catalogue.

To illustrate this, let me here reproduce a card of my own recording:

DR. EUGENE MURRAY-AARON
LANIER HEIGHTS, WASHINGTON, D. C.

December 3, 1902

The male Carolina Wren, who with his mate has taken up his winter quarters in my west library-window awning, thereby making it impossible to take the awning down this year, to its ruin no doubt, invariably sets up a great scolding whenever the lions, panthers and wolves in the National Zoo start up their sunset concert in the valley below my home. If they are quiet, so is he. It sounds much like swearing.

Now this card may interest an ornithologist; but, if so, I am not competent to judge whether he will classify it under "Wren," "Carolina Wren," "Nesting Habits," or how. And should some student of the cat tribe take a fancy to the card he certainly would not thank me for filling up that head line with the words "Wren, Carolina," as I would for my own catalogue.

The libraries of our scientific societies are all more or less cumbered with manuscript note-books—note-books containing perhaps ninety-five per cent of chaff. Some years ago, in the archives of a society that shall remain nameless, I discovered note-books regarding his field observations in America kept by that pioneer student of the diptera, Baron Osten-Sacken. These, at least some of them, had been used as scrap-books to hold clippings from daily papers regarding injurious insects, the source of the clippings amply attesting the utter worthlessness of the material that had obliterated Osten-Sacken's notes. There is nothing more unhandy to deal with, to keep conveniently on library shelves, and to properly classify, than the ordinary collection of note-books or diaries. Who ever saw two of them of the same shape and size? They are seldom thick enough to label on their backs and, after a season in the field, are usually about ready to fall apart, any how. And, as a rule, the useless material in them far outweighs the useful.

Some Notes on the Psychology of Birds

By C. WILLIAM BEEBE

Curator of Birds, New York Zoölogical Society

(Reprinted by permission from the Seventh Annual Report of the New York Zoölogical Society)

EVEN a superficial study of the psychology of birds compels us to attribute to them a highly developed intellectual and emotional life.

A few examples may make this more patent, and I will mention only those which entail rather complex psychic processes. Birds have remarkable memories. It is said a Pigeon will remember a person after many months, and a Bullfinch has been known to recognize a voice after a year's time. Birds often dream, and frequently sing or chatter in their sleep. There are few species of birds which do not show the emotions of love and sympathy, and, what is a very rare trait among animals, that sincerity of affection which causes many birds to mate for life. Even in those species which pair for only a year, one of the two will sometimes pine and die with grief at the loss of its mate.

Indeed, sympathy is the key-note in the growth of the higher intellectual and social qualities which find their culmination in man, and Professor Shaler is right when he attributes to birds a higher development of this emotion than to any other creatures below man. Reptiles can be trained to know their keeper, and an alligator will defend her buried eggs; dogs are unusually affectionate animals, and the higher monkeys have many sympathetic habits and emotions, but birds lead them all. This is not remarkable when we consider the wonderfully important place which the *family* holds in this class of vertebrates. The building of the nest, the comparatively long incubation of the eggs, and the patient feeding and complex education of the young birds all are duties in which both parents often share. It is this continued association, this "bridging over of generations," which has made sympathy so prominent a factor in the minds of birds. In what other class of animals are vocal signals of fear, distress, or terror so widely understood, or so willingly met with efforts of assistance?

To me it seems puerile to try to believe that a bird's affection for her young, so great that she will often give her life in their defense, can be correlated with an *instinct*, using that word in the common acceptance of the term. It is no more an instinct in the sense of an uncontrollable emotion, than is the analogous action of an heroic human being. Altruism, pure and simple, has governed the action of more than one bird under my observation during the past year, and that, too, in some instances, between birds of different species. Three instances come to mind: a female Red-winged Blackbird which carried a mouthful of worms to a nestful of young Red-wings near by, before passing on to brood her

own eggs, as yet unhatched; a Loon which voluntarily risked his life to free a Pied-billed Grebe from a nearly fatal ice-trap; and a Great Crowned Pigeon which assumed the care of and sheltered a nestling Ring Dove deserted by its parents.

Another aspect of the mental processes of birds shows us examples of revenge being taken after long and patient waiting for a favorable opportunity, while, on the other hand, Crows have been known again and again to sit in judgment upon one of their number, and to sentence and punish it with death.

The language of birds is most complex, and all, from the marvelous song of the Nightingale and the imitative powers of the Mocking-bird, to the many moods and feelings reflected in the apparently meaningless chirps of our city Sparrows, tell of mental powers striving for expression.

In man, the various emotions depend upon language and the range of expression of the face for their outward demonstration, and it is interesting to compare with this the state of affairs among birds. These creatures, handicapped by a vocal language very inferior to our own, and faces, for the most part sheathed, like those of insects, in expressionless masks of horn, yet are able by movements of their feathers, limbs, and other portions of the body, to express a wide range of emotions, and to clearly communicate even delicate shades of meaning.

Interrupting, for a moment, the mention of these finer qualities which show the high mental position of birds, it is desirable to emphasize a factor common to all animals, but which in birds is very important, and developed to a remarkable degree—that of extreme *individuality*. It is to this plasticity or wide variation on the already high level of knowledge, or "platform of determination," as Baldwin happily terms it, that gives to birds the numerous chances for new *accidental opportunities*, as we may call them—stepping-stones on the road of deduction, to some new and higher expression of psychic power. Every-day accidents in the search for food may be instantly seized upon by the quick perception of birds and turned to good account.

Birds had early learned to take clams or muscles in their beaks or claws at low tide, and carry them out of the reach of the water, so that at the death of the mollusk the relaxation of the adductor muscle would permit the shell to spring open and afford easy access to the inmate. Probably it needed only the accidental dropping of a few shells on the hard rocks, and a taste of the appetizing morsels within, to fix the habit which, by imitation, has spread so widely among birds at the present day. To how trivial an accident might the beginnings, the psychic *anlaga*, of many modern cosmopolitan traits of birds be traced if we could but read the past clearly!

Play and courtship — while they go hand-in-hand, so to speak — afford

opportunity for the vast resources of variation to be abundantly expressed. Groos, in his admirable "*Spiele der Thiere*," has given five separate classes under the head of courtship:

1. Love plays among young animals.
2. Courtship by arts of movement.
3. Courtship by display of unusual or beautiful colors and forms.
4. Courtship by means of noises and tones.
5. Coquetry in the female.

In the Zoölogical Park each spring, and indeed during almost every month of the year, many examples of these courtships and plays can be observed. The dances of Cranes and Eagles, the magnificent showing off of Pheasants and Ducks, the screams of Parrots and all the songs vibrant with sentiment, in which birds strive to outdo each other in the eyes of the female, show how greatly the spirit of emulation and recognition of their respective accomplishments inspire the suitors. We should also realize how pronounced must be the discriminative power and æsthetic appreciation of the females. The display of the Peacock combines the classes of movement, color, and noise; for the beauty of its argus-eyed feathers is made more effective by their being raised in a halo above the bird, the shivering of its wing-quills forming a castanet accompaniment.

A genuine delight is taken in these various displays. So far from being intuitive or mechanical exercises, they are conscientiously practiced for weeks beforehand, and are kept up long after the period of courtship and nesting is over. For instance, in the Zoölogical Park, when a Peacock in early spring timidly erects his plumes before an unappreciative Crow, it is for practice in anticipation of its later use in competition with his rivals. After the period of courtship, when he struts back and forth before a line of admiring people, the exercise is from pure delight and appreciation of his own beauties. The Germans, in their finely discriminating language, express the delicate shade of meaning in these acts by *vorübung* and *ausübung*. Even in birds which pair for life, I have noticed a coquetry and pretended courtship, spring after spring.

One more interesting fact about courtship among birds—another indication, perhaps, of their individuality—is that it is not always the most highly decorated suitor, nor the one victorious in combat, who wins the female for whom he is putting forth his utmost efforts. I have seen a Peahen show a very decided preference for, and ultimately pair off with, a young bird who had but small display, and was almost spurless. An amusing instance also noticed in the park was that of some Mallard Ducks. Three drakes vied with each other for the favor of a little brown duck. One of the drakes seemed to put but faint hope in his splutterings and bowings, and little wonder, for his tail feathers and the snowy curl, one

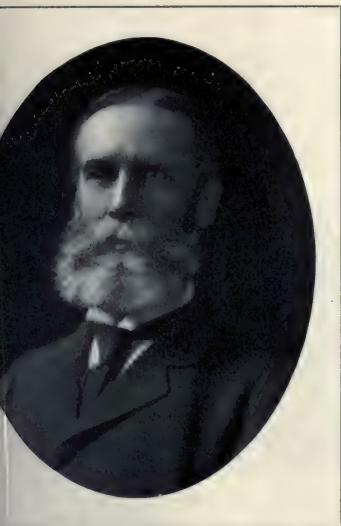
of the decorations of his sex, had been shot away, and shot-scars had spoiled the symmetry of other parts of his plumage. The other two were large and beautiful birds, bred in the park. The iridescent emerald of their heads and necks and their immaculate shining collars made them incomparably more conspicuous than the smaller wild bird. Nevertheless, all their efforts were in vain, while the occasional pitiful attempts of the handicapped suitor to spread an imaginary tail and declare his everlasting devotion prevailed. He was accepted, and the pair were inseparable until the nest was finished and the duck began sitting on her eleven eggs.

Turning from the birds in the collection to our wild native birds which make the park their home, or pay it frequent visits, we find much of interest in their changed habits and dispositions. The sight of so many birds flying unharmed in the flying cages or walking about their ranges or swimming on the various ponds undisturbed, although in close proximity to man, is fraught with significance to the quick perceptions of wild birds, large and small. Their keen perceptions and superior powers of intelligence tell them that such unwonted altruistic conditions must offer advantages.

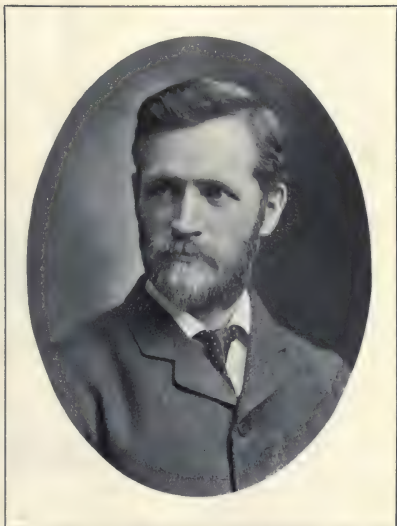
The almost immediate recognition of their security in the park is remarkable, and birds which seldom show themselves within sight of civilization have come again and again, and exhibited a tameness which deceives many people into thinking they must be escaped birds. The honored visitation of Canada Geese will long testify to the truth of this. Wild sea Gulls quite often drop from their loose flocks passing overhead, and consort for a few days with their wing-clipped kindred. When they leave, the young Gulls which have been hatched in the park usually accompany them, but return in a few hours to their home and flock. Ducks, Herons and Hawks show as quick a realization of their immunity from danger in the park.

Green Herons creep like feathered phantoms among the branches of the trees overhanging the water, while Great Blue, and Black-crowned Night Herons, forgetting all shyness, clamber over the arches of the big flying cage in broad daylight, and in sight of hundreds of people, peering down at their brethren inside and uttering envious quawks as they see the bountiful repast of fish and shrimps prepared for those fortunate ones.





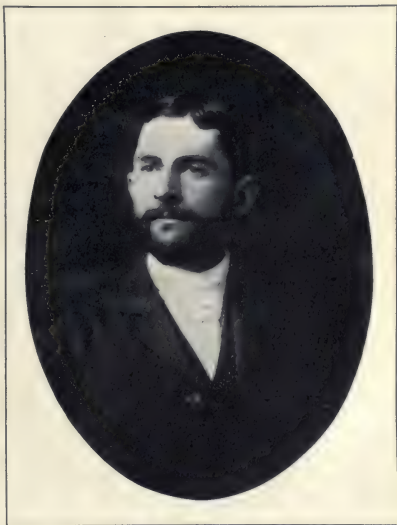
WM. C. RIVES,
Virginia, West Virginia



W. E. SAUNDERS, *Western Ontario*



WITMER STONE,
Eastern Pennsylvania, Southern New Jersey



O. W. KNIGHT, *Maine*

BIRD-LORE'S ADVISORY COUNCILORS

FIFTH SERIES



What Bird is This?

Field Description.—Length, 5.70. A yellow line before eye and on bend of wing; above, streaked brown, black and bluff; below, white streaked with black.

NOTE.—Each number of BIRD-LORE will contain a photograph, from specimens in the American Museum of Natural History, of some comparatively little-known bird, or bird in obscure plumage, the name of which will be withheld until the succeeding number of the magazine; it being believed that this method of arousing the student's curiosity will result in impressing the bird's characters upon his mind. The species figured in June is a Grasshopper Sparrow.

Questions for Bird Students

V

22. How many common or vernacular names have been applied to the Flicker?

23. How many birds are recorded as having struck the City Hall tower in Philadelphia between August 27 and October 31?

24. How many plumages are worn by Ptarmigan annually?

25. What reason has been advanced to account for the Shrike's habit of impaling its prey?

26. How many Ptarmigan wings are known to have been included in one shipment from Archangel, Russia?

Notes from Field and Study

A Robin's Defense of Its Nest

In the latter part of July, 1902, I was visiting at a farm in East Douglass, Mass. A few rods from the farmhouse was an apple orchard, through which extended a long trellis covered in most parts with a luxuriant grape-vine. This trellis was about six feet high, and several young fowls were in the habit of using the top rail, where it was comparatively free from leaves, as a roosting place during the night. For two evenings, just before dark, the sharp cries of a Robin and the squawking and fluttering of half-grown chickens were heard coming from this place in the orchard, but no particular notice was taken of it. I decided to find out what happened, and, on the next evening, took a place on the piazza from which a good view of the place could be had. First appeared the chickens, three of them, and finally they got settled on the top rail of the trellis. Then, uttering sharp cries, a Robin swept downward from an apple tree, and, flying violently against one of the chickens, knocked it fluttering and squawking to the ground. After a short interval the Robin made another descent, and, hovering over the backs of the remaining chickens, administered several sharp pecks which brought forth cries of pain. A third downward-sweep sent another chicken to the earth. The last chicken was not to be moved, however, for after several more attacks, the Robin gave up, probably frightened by the great commotion he was creating. The two fallen chickens contented themselves with a lower perch and the Robin disappeared. Curious to know the cause of all this, we went to the trellis and found on the top rail, about twenty feet from where the chickens roosted, a nest containing several young Robins. Very likely, the parent Robin thought the chickens were too near for safety, and sought thus to defend his home.

The next day a cat found the nest and destroyed the young. — CLARENCE M. ARNOLD, *Woonsocket, R. I.*

Dove's Nest on the Ground

I do not know how common it is to find Mourning Doves' nests on the ground, but I observed one for two weeks this summer while the young birds were in it, late in July and early in August, which lay out in the open in an apple orchard, at a distance from the nearest tree and quite unprotected. We have found two other Mourning Doves' nests in trees in the same orchard, in one of which the young birds are still remaining, and to judge from the number of these birds I have seen this summer, there were probably several other nests in the neighborhood. — E. H. CROSBY, *Rhinebeck, N. Y.*

An Odd Nest-site of the Chimney Swift

I have been interested by the article relating to the nesting habits of the Chimney Swift, published in the last number of BIRD-LORE. In Mr. Embury's "Birds of Madison County, New York," issued last year, I noticed similar mention of a pair, which, for a number of years, built their nests in a barn at Lake Earlville. These were of the usual type, and always "fastened to the side boards very near the peak of the roof."

Another record of an unusual site is also furnished by Madison County: In 1895, Judge A. D. Kennedy, since deceased, wrote me of the breeding of a pair in an old well on a farm near Brookfield, the nest being placed some four feet from the surface. — WILLIAM R. MAXON, *Washington, D. C.*

Starling in Massachusetts

In your notice of Mr. R. O. Morris' "Birds of Springfield" mention is made of the disappearance of the European Starlings after their release in this vicinity. On October 1, 1899, I saw a male of this species feeding with a flock of House Sparrows on the Catholic church lawn on North street, Pittsfield, Mass. It was in beautiful plumage and looked vigorous. — JOHN DENWOOD, *Fall River, Mass.*

Book News and Reviews

BIRDS IN THEIR RELATIONS TO MAN. A Manual of Economic Ornithology for the United States and Canada. By CLARENCE M. WEED and NED DEARBORN. Philadelphia and London. J. B. Lippincott Company. 1903. 12mo. viii+380 pages, numerous illustrations.

The authors state that the need of this book "was first shown when the senior author undertook to teach a college class the subject of economic ornithology, and its first draft consisted of the lectures prepared for that class. When, later, the junior author—a life-long student of birds—became associated with him, a joint study of the whole subject was undertaken, the results of which are here presented."

This work has evidently, therefore, been prepared from a practical, teachers' point of view, a fact which should add greatly to its value. In treating a subject into which statistics enter so largely and which, in its details, is lacking in popular interest, there was an excellent opportunity to produce a book which would be far from attractive.

The authors, however, appear to have avoided this difficulty, and to have made a readable volume, containing, at the same time, a vast amount of information, as is indicated by the following table of contents: Introduction, 'The Relations of Birds to Man'; Chapter I, 'The Methods of Studying the Food of Birds'; Chapter II, 'The Development of Economic Ornithology'; Chapter III, 'The Vegetable Food of Birds'; Chapter IV, 'The Animal Food of Birds'; Chapter V, 'The Amount of Food Consumed by Birds'; Chapter VI, 'Birds as Regulators of Outbreaks of Injurious Animals'; Chapter VII, 'The Relations of Birds to Predaceous and Parasitic Insects'; Chapters VIII to XX, Systematic Treatment of the Food of North American Birds by Families and Species; Chapters XXI and XXII, 'The Conservation of Birds'; Chapter XXIII, 'Preventing the Depredations of Birds'; Chapter XXIV, 'Encouraging the Presence of

Birds'; Appendix I, 'The Bird Law of the American Ornithologists' Union'; Appendix II, 'The Lacey Bird Law'; Appendix III, 'Some Fundamental Principles of Bird Laws'; Appendix IV, 'A Partial Bibliography of the Economic Relations of North American Birds.'

It is evident from this citation of chapter-headings that this book contains more information in regard to the general subject of economic ornithology than has before been brought into one volume, a fact which should, and we trust will, commend it to every one interested in the more practical side of the birds' relations to man.—F. M. C.

PROCEEDINGS OF THE NEBRASKA ORNITHOLOGISTS' UNION AT ITS THIRD ANNUAL MEETING. Edited by ROBERT H. WOLCOTT. Lincoln, Neb. 8vo. 108 pages, xvi plates, numerous text-cuts.

The third volume of these 'Proceedings' contains a report of the meeting of this active organization held at Lincoln, February 1, 1902, and the papers which were there presented. The officers elected for the ensuing year were: President, J. M. Bates; vice-president, Mrs. George H. Payne; corresponding secretary, J. C. Crawford, Jr.; recording secretary, R. H. Wolcott; treasurer, August Eiche.

The papers here published include an admirable address by the retiring president, Professor E. H. Barbour, on 'The Progenitors of Birds,' with numerous illustrations; 'A Story that Ends Rightly,' by Frank H. Shoemaker (illustrated); 'Water for Birds,' by Elsie Pepoon; 'From a Woman's Standpoint,' by Nell Harrison; 'Ten Years Without a Gun,' by Wilson Tout; 'A Pair of Young Barred Owls,' by Elizabeth Van Sant (illustrated); 'Notes on the Distribution and Habits of the Blue Grosbeak in Nebraska,' by Myron H. Swenk; 'Some Birds Found Around Dunbar During Winter Months,' by E. H. Jones; 'Our Winter Birds,' by Myron H.

Swenk; 'A Comparison of the Bird-life Found in the Sand-Hill Region of Holt County in 1883-84 and in 1901,' by Lawrence Bruner; 'Some General Remarks upon the Distribution of Life in Northwest Nebraska,' by Merritt Cary (illustrated); 'Notes on the Nesting of Some Sioux County Birds,' by M. A. Carriker, Jr. (illustrated); 'Bird and Nest Photography,' by I. S. Trostler; 'Record of Nebraska Ornithology,' by R. H. Wolcott; Obituary Notices and Miscellaneous Notes.—F. M. C.

The Ornithological Magazines

BULLETIN OF THE MICHIGAN ORNITHOLOGICAL CLUB.—"After a few years of apparent sleep, the Michigan Ornithological Club has again become active, and likewise its Bulletin, which discontinued publication (with Volume III, No. 2) in April, 1899, leaving Nos. 3 and 4 unpublished, has taken on a new lease of life, and again appears as the regular record of the club."—[Editorial.]

The present number of the 'Bulletin' contains 'In Memoriam—Thomas McIlwraith,' by William E. Saunders, with a full-page portrait of Mr. McIlwraith; 'Some Work for Michigan Ornithologists to Do,' by William Dutcher, urging the club to take an active part in bird-protection measures; 'Some Hints for Bird Study,' by Walter B. Barrows, containing some sound advice; 'A List of the Land Birds of Southeastern Michigan,' by Bradshaw H. Swales; 'Suggestions for a Method of Studying the Migration of Birds,' by Leon J. Cole, which the club would do well to act upon; 'Personals,' 'Editorials,' 'Book News and Reviews,' 'Notes from Field and Museum,' and a 'Membership Roll' in which all ornithologists of the Great Lake Region should have their names included.

The 'Bulletin' is edited by Alexander W. Blair, Jr., 131 Elmwood Avenue, Detroit, Michigan, to whom communications may be addressed.—F. M. C.

THE CONDOR.—In the May number of 'The Condor' students of bird migration will find an interesting account, by W.

Otto Emerson, of 'A Remarkable Flight of Louisiana Tanagers' at Haywards, California. Although seldom seen during the spring migration in this locality, the birds were very abundant from May 12 to 28, 1896. They were also unusually abundant about eight days earlier at Pasadena, in the southern part of the state. At both places they did much damage to cherries, and consequently were shot in large numbers, the number killed at Haywards being estimated at 600 to 1,000.

Under the caption 'Nesting Dates for Birds in the Denver District, Colorado,' Fred M. Dille has summarized the results of many seasons' collecting in the Rocky Mountain region for the use of those who desire to obtain specimens or photographs of nests, eggs or young birds. From the data here presented it appears that complete sets of eggs of most of the Colorado birds may be found between May 15 and June 15. Nesting habits are also treated in three other papers (all illustrated). These are 'Two Vireos [Cassin's and the Western Warbling] caught with a Camera,' by William L. Finley; 'The Harris Hawk on His Nesting Ground,' near Corpus Christi, Texas, by Mrs. F. M. Bailey; and 'A Strange Nesting Site of *Calypto anna*,' on a telegraph pole in the main street of Santo Monica, California, by W. Lee Chambers.

The status of 'The California Yellow Warbler' is discussed by Joseph Grinnell, who reviews the history of the western bird and names it *Dendroica aestiva brewsteri*, basing his description on a specimen collected at Palo Alto, California. *Dendroica a. morcomi*, described from a bird taken at Fort Bridger, Wyoming, is treated as a synonym of *D. aestiva*. Two faunal papers 'Stray Notes from Southern Arizona,' by F. H. Fowler; 'Bird Notes from Eastern California and Western Arizona,' by Frank Stephens; and two short notes on Hawaiian birds by William Alanson Bryan also deserve mention. Stephens' paper contains the first instalment of notes on the species observed in the summer of 1902 in a little known region of the Colorado desert and will be concluded in the next number.—T. S. P.

Bird-Lore

A Bi-monthly Magazine

Devoted to the Study and Protection of Birds

OFFICIAL ORGAN OF THE AUDUBON SOCIETIES

Edited by FRANK M. CHAPMAN

Published by THE MACMILLAN COMPANY

Vol. V Published August 1, 1903 No. 4

SUBSCRIPTION RATES

Price in the United States, Canada and Mexico twenty cents a number, one dollar a year, postage paid.

Subscriptions may be sent to the Publishers, at Harrisburg, Pennsylvania, or 66 Fifth Avenue, New York City.

Price in all countries in the International Postal Union, twenty-five cents a number, one dollar and a quarter a year, postage paid.

COPYRIGHTED, 1903, BY FRANK M. CHAPMAN

Bird-Lore's Motto:

A Bird in the Bush is Worth Two in the Hand.

We figure in this issue of BIRD-LORE a portion of a group of birds lately placed on exhibition in the American Museum of Natural History. This group is intended to be a companion piece to the Bird Rock group completed some years ago. The latter represents the sea-bird life of a rocky, precipitous shore, while the more recent group reproduces the sea-bird life of a sandy beach.

The first group has been pronounced both a faithful and attractive representation of the conditions it is designed to depict, but in the newer group a further attempt at realism has been made through the introduction of a painted background.

The observer is supposed to be standing on the inner, westward side of the broad beach of Cobb's Island, Virginia, and to be looking eastward across the beach out over the sea. The foreground, with its birds, grasses and shells, is real, the more distant beach and the sea are painted, but so cleverly are the two joined that, as our illustration shows, it is difficult to tell where one leaves off and the other begins.

We mention this exhibit not as a bit of museum news, but to compare it with the rows of birds mounted stiffly on T perches which constitute the usual museum display

in ornithology. On the one hand is monotony of pose without suggestion of haunt or habit; on the other, the bird is a part of the scene in which, in life, it belongs.

There is obviously small need for this comparison so far as the merits of these two types of museum exhibits are concerned, and it is made solely to emphasize the difference between effective and ineffective methods of presenting facts in natural history.

The public file past the endless rows of stuffed specimens, pausing only here and there for a second look at some bright color or, perhaps, at the owner of a familiar name, but in the end are brought no nearer the bird in nature. And it should never for a moment be forgotten that it is the bird in nature to which the museum exhibits ought to lead us.

The stereotyped stuffed bird or bird's skin will do for the student who refers to it as one would to a dictionary, but it is emphatically not an object to appeal to one whose interest in the language of ornithology remains to be awakened. We may then compel the attention of the unobservant by appealing primarily to the universal love of the beautiful. This Cobb's Island group is a picture in color which few can pass with only a casual glance. Once really seen it arouses the curiosity. This may lead to the reading of a label, and thus the way is opened for the entrance not only of the general facts which the group is designed to illustrate but of those relating to the birds of which it is composed.

Nor is this lesson to be read by the museum curator alone. It belongs equally to every teacher of natural history. It may not always be possible for him to present facts through the medium of a such group as the one in question, but at least the fact should have its proper setting, which should not only be accurate but attractive.

It is only failure to grasp a fact in its proper relations, to appreciate its real meaning, that leads some teachers away from the truth in an attempt to secure their pupil's attention. Thus we have natural history fiction. But he has indeed a vivid imagination who can create fiction which shall be more interesting than facts in nature.

The Audubon Societies

*"You cannot with a scalpel find the poet's soul,
Nor yet the wild bird's song."*

Edited by MRS. MABEL OSGOOD WRIGHT (President of the Audubon Society of the State of Connecticut), Fairfield, Conn., to whom all communications relating to the work of the Audubon and other Bird Protective Societies should be addressed. Reports, etc., designed for this department should be sent at least one month prior to the date of publication.

DIRECTORY OF STATE AUDUBON SOCIETIES

With names and addresses of their Secretaries

California	MRS. GEORGE S. GAY, Redlands.
Colorado	MRS. MARTHA A. SHUTE, Denver.
Connecticut	MRS. WILLIAM BROWN GLOVER, Fairfield.
Delaware	MRS. WM. S. HILLES, Delaware Place, Wilmington.
District of Columbia	MRS. JOHN DEWHURST PATTEN, 2212 R street, Washington.
Florida	MRS. I. VANDERPOOL, Maitland.
Illinois	MISS MARY DRUMMOND, 208 West street, Wheaton.
Indiana	W. W. WOOLEN, Indianapolis.
Iowa	MRS. L. E. FELT, Keokuk.
Kentucky	
Louisiana	MISS ANITA PRING, 1449 Arabella St. New Orleans.
Maine	MRS. C. B. TUTTLE, Fairfield.
Maryland	MISS ANNE WESTON WHITNEY, 715 St. Paul street, Baltimore.
Massachusetts	MISS HARRIET E. RICHARDS, care Boston Society of Natural History, Boston.
Minnesota	MISS SARAH L. PUTNAM, 125 Inglehart street, St. Paul.
Missouri	AUGUST REESE, 2516 North Fourteenth street, St. Louis.
Nebraska	MISS JOY HIGGINS, 544 South 30th street, Omaha.
New Hampshire	MRS. F. W. BATCHELDER, Manchester.
New Jersey	MISS JULIA SCRIBNER, 510 E. Front street, Plainfield, N. J.
New York	MISS EMMA H. LOCKWOOD, 243 West Seventy-fifth street, New York City.
North Carolina	T. GILBERT PEARSON, Greensboro.
Ohio	MRS. D. Z. McCLELLAND, 820 West Ninth street, Cincinnati.
Oklahoma	MRS. ADELA HOLCOMB, Enid.
Oregon	MISS GERTRUDE METCALFE, 634 Williams ave., Portland.
Pennsylvania	MRS. EDWARD ROBINS, 114 South Twenty-first street, Philadelphia.
Rhode Island	MARTHA R. CLARKE, 89 Brown street, Providence.
South Carolina	MISS S. A. SMYTH, Legare street, Charleston.
Tennessee	MRS. C. C. CONNER, Ripley.
Vermont	MRS. FLETCHER K. BARROWS, Brattleboro.
Virginia	MRS. J. C. PLANT, Glencaryln.
Wisconsin	MRS. REUBEN G. THWAITES, 260 Langdon street, Madison.
Wyoming	MRS. N. R. DAVIS, Cheyenne.

The Literature of Bird Protection

Within the decade it has been difficult for the amateur bird student to obtain suitable guide-books for his use. Then came the great revival of 1895; enthusiasm started and waxed intense; the Audubon movement, that had beforetime merely flickered, swept into flame, and a crusade was formed, too strong with a righteous indignation to be at first discriminating in what it attacked. The fact of wholesale bird destruction was its battle-cry, a cry which has been heard at least around the civilized world even if all have not yet given practical heed.

Next came the demand, from the conservative, for definite and detailed information,

that remedies might be adopted suitable for local needs,—not emotional, figurative writing, but accurate, scientific statement, such as the general medical practitioner —if he is an able man—seeks from the specialist in troublous cases.

In answer to this demand has sprung a new form of expression, the Literature of Bird Protection,—literature, because it goes far beyond the mere tabulation of facts, and thus wins for itself a permanent place that its statistics alone could not obtain for it.

While the majority of more or less elaborate manuals of ornithology and nature-books of the past eight years dwell upon the economic value of birds, it has been

left to the last two or three years to see the exact status of law and conditions so collected that any one interested in such matters may keep them at his elbow.

Audubon workers should realize their responsibility, the importance of accuracy and keep themselves well informed,—as there is nothing so disastrous as the effect of loose statements and overdrawn claims upon the skeptical,—and both welcome and circulate this literature.

Without excluding much else that is valuable, I wish to call attention to three recent publications, viz., 'The Educational Leaflet Series' of the National Committee of Audubon Societies; 'Audubon Societies in Relation to the Farmer,' by Henry Oldys (reprint from the Year-Book of the Department of Agriculture, 1902), and 'Birds in their Relations to Man,' the manual of economic ornithology prepared by Messrs. Clarence M. Weed and Ned Dearborn, D. Sc. and issued in an illustrated volume of some 375 pages by the J. B. Lippincott Company, of Philadelphia. The educational leaflets treat each of one bird, the four already issued being on the much misunderstood Nighthawk, the Mourning Dove, the Meadow-lark and the Robin. These give, in addition to accurate descriptions and many interesting facts also, a table of the food or yearly menu of the bird. These may be purchased from the chairman of the National Committee in bulk, and used in answer to the cry of 'more literature,' that continually comes to Audubon workers.

Mr. Oldys' pamphlet is a valuable presentation of the Audubon work that the societies should procure and strive to circulate at grange meetings and at the autumnal county fairs, while 'Birds in their Relations to Man' is a book not so much of new material but of assimilated facts, of equal value to the economic ornithologist, the general reader and the nature-lover who is learning to discriminate between values.

This August season is the ebb-tide of the bird protection year, as far as the meetings and active Audubon work is concerned. The schools are deserted and the impudent English Sparrow raises his last brood, behind

the blinds, undisturbed; people are away from home, and, therefore, less keenly alive to their responsibilities. Now is the time to "read, mark and inwardly digest" and plan the work for the coming year; therefore, let all who can buy, borrow or—yes, even steal—"Birds in their Relations to Man," and not only read the book but endeavor to realize it.

M. O. W.

That the Omaha Society is coming to the front, both in interesting school children and prosecuting lawbreakers, is proven by the following cuttings from a local paper:

PUPILS LEARN TO LOVE BIRDS

The pupils of the Omaha public schools are being enrolled as members of the Omaha Audubon society. Fifteen thousand children will have signed a pledge not to harm birds and will wear a badge of the society by the 1st of May. Dr. S. R. Towne and Arthur S. Pearse are visiting the schools at the request of the principals, making short talks on the mission of the society. Miss Joy Higgins, 544 South Thirtieth street, will send membership cards to any one wishing to assist the organization. The distribution of literature and assistance the society can give to the schools—the significance and importance of which will be appreciated by all bird-protectionists—depend upon the voluntary contributions from persons interested.

Special Dispatch to the World-Herald.

THEDFORD, NEB., April 23.—For a few minutes today constructively the city jail was the home of Rev. Robert E. Lee Craig, rector of the Trinity Cathedral of Omaha. The rector had been in the place but a few minutes, however, before he was released on bonds, after having been bound over to the district court on the charge of shooting Meadow-larks.

The beginning of the rector's tribulations commenced several days ago, when he was seen here, armed with a shotgun and a plenitude of ammunition. The neighborhood had been praised to him as the Eden of sportsmen. He readily found a guide for the hunting fields and started out with his game-bag yawning for the fruits of the

meadows and fields. But shooting was poor. The ducks had all flown northward and the other winged beings he had expected to find in great numbers were missing from their customary haunts, perhaps apprised of the coming of the gentleman of the cloth.

Although he made no statement before the court, it appears that Rev. Craig found nothing that would satisfy his sportsman's lust for a killing. This afternoon the sheriff of Thomas county happened to be driving in the neighborhood on his work of serving subpoenas. He had, incidentally, heard that some unlawful shooting was being done in the neighborhood. At the sound of a gun he decided to make an investigation. This investigation resulted in the arrest of the Omaha minister. In the game-bag attached to his person were found twenty-two Meadow-larks, on whose slaughter the state of Nebraska has set the seal of its disapproval.

The minister consented without hesitation, although with some misgivings, to accompany the sheriff to this city, where he was soon brought before a justice and bound over without a hitch to the district court for further trial.

This arrest seems all the more pointed and consistent from the fact that the Meadow-lark is the emblem on the button of the Omaha Society.

Much interest in Bird Day as celebrated in one of the schools is reported from San Antonio, Texas, by Miss Florence T. Wasson. It must be remembered that the state society came to an untimely end owing to the death of the secretary, Miss Seixas, at the time of the inundation, and it seems unfortunate that there should be now no organization in so important a state. Who will take the initiative?

Report of Societies

Extracts from Annual Report of the Audubon Society of R. I.

The work of the Audubon Society of Rhode Island has been carried on since the

last annual meeting through the regular meetings of the Board of Directors and the duties of the various committees. We have at present seven local secretaries in as many towns and members in various other places in the state. It is hoped in the coming year to found a number of new branches.

The traveling lecture has been doing active service. In November it had already been heard in twenty-four different places. It is at present in constant demand by schools, churches and societies.

The traveling library also has been useful during the year. At present it is at the East Greenwich Academy and goes from there to the local secretary in Woonsocket.

Two lectures have been given in Providence this year under the auspices of this society,—one on February 28, by Mr. Frank M. Chapman on "The Bird Life of Islands," and one on April 20, by Mr. F. Schuyler Mathews.

Last spring the society helped financially to place bird charts, purchased from the Massachusetts society, in the country schools of the state, Mr. Stockwell, the commissioner of public schools, deciding where they would do the best service. This year we shall assist in buying a second set of charts for the schools. Throughout the year there has been a constant distribution of Audubon literature.

The most important advance step taken by the Board of Directors during the year has been the appointment of a millinery committee, consisting of Mrs. Henry T. Grant, Rev. A. M. Lord and Mr. Preston Gardner, to carry on work among the local milliners.

Attention should be called to the work of the Bird Commissioners of the state and their efforts to pass laws to protect shore-birds, to prevent the shooting of water-fowl from electric and steam launches and to stop for three years the sale of Ruffed Grouse and Woodcock.

If the changes recommended by this commission come before the legislature, we earnestly bespeak for them the support and influence of every member of the Audubon Society.

MARTHA R. CLARKE, *Secretary*.

BIRD DAY

The approaching anniversary of John James Audubon's birthday has brought this letter to this office :

NEW ORLEANS, May 1, 1903.

To the Editor of *The Times-Democrat*.

"On May 4, 1780, there was born at Mandeville, one of Louisiana's most famous sons, John James Audubon. In after life he became an ornithologist, celebrated for his wonderful abilities not only in this country, but in many foreign countries. The lover of birds and their quiet haunts, he became the associate of the great ones of this world; kings, rulers, statesmen, scientists, found in this humble and brilliant man a worthy associate, and they delighted to honor him.

"To faithfully depict bird life with brush and pen became the ruling passion of his life; for that purpose he at times gave up home, family and friends to wander through the pathless forest. The result of his labors in the massive volumes of the 'Birds of North America,' remains today a monumental testimony to his industry, persistency, accuracy and great attainments.

"This man loved birds for what they were,—things of life and beauty. Latter-day science has shown that birds are ordained by the Creator to be a wonderfully effective agency to keep in check the hordes of insect pests, and one would suppose that in this state, so largely dependent upon its agricultural resources, the birds would have the legal protection they so richly deserve; but, on the contrary, the spirit of lawlessness and greed has become so bold and defiant that, if such protection is asked for, one must face the insults of those whose business is the destruction of our birds and the open indifference and antagonism of some of our law-makers. In many of the states, Audubon and his work are highly appreciated; but in this, his home state, we have taken the time to name one of our parks after him and a theater, and that is all.

"To offset this neglect, I suggest that next Monday the newspapers print articles in commemoration of this remarkable man,

and that in every school short addresses be made to the children regarding the value of bird-life and the great importance of birds to the welfare of man. In other words, let us have a 'Bird Day,' such as many of the States have adopted.

"I suppose it is too much to expect to see upon each recurring anniversary of Audubon's birthday all the school children gathered together in Audubon Park to worthily celebrate the man and what his work stands for."

FRANK M. MILLER,
Vice-President Audubon Society of Louisiana.

"The criticism contained in this letter is merited; the suggestion made by Mr. Miller is admirable. It is quite true that the just fame of John James Audubon has been somewhat neglected by citizens of the state in which he was born. The anniversary of his birthday should, as Mr. Miller says, be properly celebrated."

—*The Times-Democrat*.

The Fall Fashions

"A study of the styles in women's headwear now prevailing in Europe for summer wear, and after an inspection of the first models prepared by the Parisian modistes for the coming fall and winter season, we are deeply impressed by the fact that there will be more than an ordinary demand for birds and bird plumage of a variety of styles. Under these conditions, some dealers may be tempted to turn an honest (?) penny by investing in goods that are, to use an old army phrase, 'contraband of war'—in other words, in violation of various state game laws. Dealers are warned against indulging in any method of buying or selling such merchandise that is in violation of the agreement of the Millinery Merchants' Protective Association and the Audubon Societies, as all violations of law coming to the knowledge of the members of the association will be reported to the proper authorities, and punishment meted out to those who knowingly transgress the law. There is an abundance of birds and plumage in the market that can be sold safely and at a fair profit without having recourse to law-breaking."—*Millinery Trade Review* for July.



SECTION OF TELEGRAPH POLE FROM ARIZONA, SHOWING ACORNS STORED BY CALIFORNIA WOODPECKER

(Photographed from the specimen in the American Museum of Natural History. For exhibition purposes a mounted California Woodpecker has been placed on the pole)

Bird = Lore

A BI-MONTHLY MAGAZINE
DEVOTED TO THE STUDY AND PROTECTION OF BIRDS

OFFICIAL ORGAN OF THE AUDUBON SOCIETIES

Vol. V

SEPTEMBER — OCTOBER, 1903

No. 5

The Mystery of the Black-billed Cuckoo

BY GERALD H. THAYER

INCREDULITY will doubtless be the predominant note in the reception of the strange tale which I am about to unfold, yet living evidence of its truth is yearly accessible to any one who has leisure and inclination to seek it. I refer to the mid-summer, mid-night, mid-sky gyrations of the Black-billed Cuckoo, as noted by my father and me for three consecutive seasons in the southwestern corner of New Hampshire. Here, in the country immediately surrounding Mt. Monadnock, the Black-billed Cuckoo is a fairly common summer resident, while the Yellow-billed occurs only as a rare autumn migrant.

Several years before we discovered the nocturnal-flight phenomenon, we began to be puzzled by the extreme frequency of Cuckoo calls on summer nights. These calls were far commoner than the same bird's daytime noises; in fact, a week might pass without our seeing or hearing any Cuckoos during the daylight hours, while they were nightly vociferous around the house. They uttered both the *cow-cow* notes and the rolling guttural call; but the guttural was much the commoner of the two, except on dark, foggy nights, when the case was usually reversed. The explanation of this difference was not immediately forthcoming, but was suggested a summer or two later by our discovery that the birds were almost invariably seated when they made the *cow-cow* note, and always in flight when they made the rolling guttural.

From this time onward I spent many evenings out-of-doors, on the roads and in the woods and fields. I also slept out, on uncovered piazzas, in an open tent, and occasionally on mother-earth on a high peak of Mt. Monadnock. These evenings and wakeful minutes of the nights gave me unique opportunities to study nocturnal bird-notes, and I had many interesting experiences. Chief among these was the discovery, incredible at first, but gradually forced upon my belief by steady accretion of the

evidence, that the Cuckoos not only often called and flew about at night, but habitually journeyed through the air at a great height, apparently going far. Walking in the fields, or lying under the stars, on pleasant nights, I rarely failed to hear several utterances of the gurgling Cuckoo note very high overhead. Sometimes one of the birds would call frequently enough so that its general course could be distinctly traced; but more often a single gurgle, sounding from somewhere in the starry heavens, was the only intimation of the transit of another Cuckoo.

"High overhead" is an ambiguous expression, which needs qualifying; but unfortunately it is impossible safely to estimate the height in such a case. The birds were often so far up as to be only faintly audible when directly overhead, with no obstructions interposed; and this on a still night would seem to mean an elevation of at least a hundred and fifty yards. They sometimes flew lower, however, and on cloudy nights often moved about barely above the tree-tops. On foggy nights they were apt to be vociferous, but chiefly with the *cow-cow* notes, and flew little. I have heard them at all hours of the night, but mainly between eight and twelve. In my last summer's journal I have thus recorded an extraordinary 'irruption' of nocturnal Cuckoos: "July 14: Every night the Cuckoos call overhead. On the evening of July 11,—a pitch-dark evening with a thunder-shower lowering,—they were remarkably noisy, both sitting in trees and flying high in air. The seated ones, of which I heard only two, made the *cow-cow* notes, while all the flying ones made the liquid gurgle. I heard this note overhead between thirty and forty times in the course of about three hours, during half of which time I was afoot on the road. The birds were almost all flying high, and all but one of the five or six whose course could be traced seemed to be going northward." This was the climax of my last year's experience with these queer birds.

The present summer of 1903 has been a repetition of the two previous ones as far as Cuckoo antics and my observations of them are concerned. From May to September the high-sky Cuckoo gurgle has been one of the regulation night-sounds,—so very familiar as quite to lose its poignancy of interest. One new item has been added to the chronicle, however; I have heard the note at the usual height overhead from an elevation of nearly 3,000 feet on the narrow rocky ridge of Mt. Monadnock! Now, though this bird may possibly have been wandering about the mountain, there was every indication that he was merely passing over it, in the course of a long journey. It is precisely as if the birds were migrating; which is impossible during the three months of summer, when the performance is at its height. Moreover, in view of the fact that I have seen a Cuckoo's nest containing an unfledged young one on September 14, at the northern base of Monadnock, not even the September night-flyers can be considered migrants.

What, then, is the meaning of this weirdly incongruous performance,—

this midnight gamboling of short-winged, diurnal (?) brush-birds in the open heavens? He who can answer this question will have solved one of the strangest ornithological problems that has come up in recent years. Burroughs, as Mr. Ralph Hoffmann has lately pointed out to me, writes of experiences with Cuckoos very much like mine, and says he believes the birds are quiet largely nocturnal ("Pepacton," pp. 15, 16). He also says that the nocturnal flight-notes may be heard in any part of the [Cuckoo] country, which is what I have suspected, but never had opportunities of proving. In fact, my task would be merely to corroborate and call attention to this seemingly neglected statement of Burroughs's, were it not for the fact that my own experience brings a strong additional element of mystery to the case; namely, the great height and evident protractedness of the flights. For, granted that the Cuckoo actually is a nocturnal bird, which moves about freely from one feeding-place to another in the night-time (and this would mean that its life-history is still all to learn), how are we to account for the height and length and regularity of the flights? Flights from tree to tree, or from copse to copse, would be legitimate enough; but these long, celestial (!) journeys are quite incomprehensible.

Nocturnal the birds certainly must be, at the least of it. Aside from the evidence already adduced, their large, dark eyes and peculiarly quiet and elusive day-time habits favor this hypothesis. So at least it seems to me:—perhaps I am going too fast. But whatever the final verdict on this point may be, it is certain that our New Hampshire Cuckoos (or their departed spirits!) are given to traveling about through the still air of night, high over woods and lakes and mountains. To the uninitiated this will sound like nonsense; but let any ornithologist who is in the least danger of ever spending summer nights afield in southern New Hampshire beware of committing himself to skepticism on the subject.

The field of ornithology, even here in thrice-thrashed-out New England, is still full of untarnished wonders and surprises.



A North Dakota Slough

BY A. C. BENT

With Photographs from Nature by the Author

SEATED in a comfortable buckboard, with two congenial companions, and drawn by a lively pair of unshod bronchos, we had driven for many a mile across the wild, rolling wastes of the boundless prairies, with not even a tree or a rock in sight, unconfined by fences or roads, and with nothing to guide us but the narrow wagon ruts which marked the section lines and served as the only highways. It was a bright, warm day in June, and way off on the horizon we could see spread out before us what appeared to be a great, marshy lake; but it seemed to fade still farther away as we drove on, and our guide explained to us that it was only a mirage, which is of common occurrence there, and that we should not see the slough we were heading for until we were right upon it.

We came at last to a depression in the prairie, marked by a steep embankment, and there, ten feet below the level of the prairie, lay the great slough spread out before us. Flocks of Ducks, Mallards, Pintails, and Shovellers, rose from its surface when we appeared, and in the open water in the center of the slough, we could, with the aid of a glass, identify Redheads, Canvasbacks and Ruddy Ducks, swimming about in scattered flocks, the white backs of the Canvasbacks glistening in the sunlight, and the sprightly upturned tails of the Ruddies serving to mark them well. A cloud of Blackbirds, Yellowheads and Redwings, arose from the reedy edges of the slough, hundreds of Coots were scurrying in and out among the reeds, a few Ring-billed Gulls, and a lot of Black Terns were hovering overhead, and around the shores were numerous Killdeers, Wilson's Phalaropes and other shore birds. The scene was full of life and animation, stirring the enthusiasm of the ornithologist to the highest pitch, and we lost no time in picketing our horses and preparing for a closer acquaintance with the inhabitants of such a bird paradise.

Numerous great Marbled Godwits and Western Willets were flying about the marshy outskirts of the slough, acting as if they had nests in the vicinity, which, however, we were unable to locate.

The beautiful and graceful little Wilson's Phalaropes were very tame, flitting about daintily among the grassy tussocks, where their nests were well concealed in the thick grass. Killdeers were flying about us, bold and vociferous, protesting at our intrusion with their plaintive cries. "Look here, look here!" they would seem to say, but their spotted eggs were hard to find, even on the bare, open shores where they nested.

Soras and Virginia Rails were nesting in the shallow water among the short grass on the edge of the slough. The Virginias' nests were very

scanty affairs, merely a few straws on little grassy tussocks, often arched over above, but barely concealing the eggs from view. The Soras' nests were more substantially made of dead reeds, but were generally plainly visible. A little farther out, where the grass was a little taller and the water deeper, we began to find the nests of the Red-winged Blackbirds,—characteristic nests of the species, but often containing eggs of the Cowbird, and, in one case, two eggs of this prolific parasite.

But by far the most abundant birds in the slough were the Yellow-headed Blackbirds, the characteristic bird of every North Dakota slough;



COOT'S NEST

they fairly swarmed everywhere, and the constant din of their voices became almost tiresome. The old male birds are strikingly handsome with their bright yellow heads and jet black plumage, offset by the pure white patches in their wings, the duller colors of the females and young males making a pleasing variety. The commonest notes, the song most constantly heard, suggests the syllables "Oka wée wee," the first a guttural croak, and the last two notes loud, clear whistles, falling off in tone and pitch, the whole song being given with a decided emphasis and swing. They also have a low guttural "Kruk," and sometimes give the last two notes only of the first song.

They seem to feel most at home in the tall, thick reeds, clinging readily to the smooth, upright stems, mounting to the slender, swaying tops to

pour out their unmusical notes, or skulking out of sight below on the approach of danger; but frequently we saw them in small scattered flocks, following along the furrows made by the ranchman's plow in the neighboring wheat fields. Two or three pairs of Marsh Hawks frequented the



PIED-BILLED GREBE'S NEST WITH NINE EGGS COVERED

slough, but the Blackbirds never learned to trust them, harmless as they were, for whenever one of the Hawks flew out over the slough the Blackbirds would rise in a great cloud, cackling loudly, fly about in great confusion for a few minutes, and then settle down into the reeds again.

Their nests were securely fastened to the tall reeds two or three feet above the water, with but little attempt at concealment; they were rather bulky, deeply hollowed and well made of coarse, dry reeds firmly woven together, and neatly lined with coarse grass of a peculiar buffy color. Three or four finely spotted eggs made up the usual set.

Next to the Blackbirds in importance came the American Coots, which were always much in evidence, noisy, lively, and interesting. We were constantly starting them from their nests and sending them spattering off through the reeds to the open water, where they would swim about and watch us from a safe distance. Occasionally, if we kept quiet, one would swim back to play about in the water near us, with the head lowered until the bill almost touched the water and with the wings elevated behind like a swan's, often backing water with both feet, and thus raising the body backwards out of the water, splashing noisily all the time and grunting a loud guttural "Kruk, kruk."

Their favorite nesting haunts were among the more open, scattered reeds and rushes, where they built their bulky piles of dead flags and rubbish in the shallow water, forming a rather neat, shallow nest two or

three inches above the water, laying from eight to fifteen eggs. Sometimes the nests were well concealed in thick patches of reeds, but more often they were easily found.

At the time of our visit, June 10, many of the eggs were hatching, and the feeble little chicks were scrambling out into the water. They were scantily covered with reddish yellow down, more reddish anteriorly and more blackish posteriorly, with bright red bills.

In this same section of the slough were numerous nests of the Pied-billed Grebe, wet, soggy masses of rotten reeds and rubbish, plastered together with a dark green vegetable scum, containing from five to nine dull, nest-stained eggs. Sometimes the eggs were completely covered with rubbish, but more often not. In one nest the young were hatched, and scrambled off into the shallow water, diving like experts, but they could not swim far under water and soon came to the surface again. They were very prettily marked with soft black and white down, tinged with rufous on the back of the head. The old birds were very shy, always disappearing



BLACK TERN'S NEST

before we came up, but, if we waited long enough and kept out of sight, their curiosity would prompt them to come to the surface near the nest.

In an open, shallow portion of the slough a small colony of Black Terns were hovering about, protesting vigorously at our intrusion. They were exceedingly bold and courageous, darting down at us, and sometimes even striking us. Their note is a short, sharp "Kek," uttered with great vehemence, and somewhat prolonged into a shrill scream when

very near their nests. The nests, hardly deserving the name, were merely small piles of wet, dead rushes on floating masses of similar rubbish, on which the three dark, spotted eggs were hardly visible.

In the drier portions of the slough, near the edges, we came frequently to open, muddy areas, where the dead reeds had been beaten down flat by the winter's storms, and in one of these we saw the remains of a great nest, a large pile of dead reeds and flags, three feet in diameter, but slightly hollowed in the center, and containing one large, dirty, white egg, the deserted home of the Canada Goose, from which both old and young had long since departed, and were nowhere to be seen.

Not far from here we flushed a large, brownish Duck from a thick, tangled mass of dead flags, where we discovered a nest full of buff-colored eggs, sixteen in number. They were unmistakably Redhead's eggs, and we soon had a good look at the bird as she came back, circling about us, accompanied by her mate.

Several more nests of this species were found in similar locations, generally well built of dry reeds, deeply hollowed and profusely lined with white down. In one case, we found as many as twenty-two eggs in the nest, arranged in two layers, one above the other. The Redheads were the most abundant of the Ducks in the slough, and probably laid their eggs in each others nests, to some extent, as they certainly laid in all the other Ducks' nests.

As we waded along the outer edge of the reeds, exploring the scattered clumps of tall rushes growing in the deep, open water, a great splashing and flapping was heard, and out rushed a large gray Duck, almost in our faces; as she flew past us, we could clearly see the long, slender, pointed bill which marked her as a Canvasback. At last we had found the home of this famous game-bird. The nest was well concealed in the center of the clump, completely invisible from the outside; it was a bulky mass of rushes with only a little grayish down for a lining. There were eleven eggs in the nest,—seven dark olive eggs of the Canvasback, and four lighter, buffy eggs of the Redhead. The Canvasback must be easily imposed upon, for all the nests we found contained from one to four eggs of either the Redhead or the Ruddy Duck. The Canvasbacks are close sitters, as we always flushed them at short distances. At least one brood had hatched out, as we saw the mother bird swimming out into the open water with five little ones close at her heels.

The shyest of all the Ducks were the little Ruddy Ducks; we saw the males swimming about in the open water at a distance, but we never flushed them from, or saw them near, their nests. They retired to the innermost recesses of the tallest and thickest reeds to build their nests, where they were so well hidden that it was difficult for us to find them

again when we wanted to photograph them. Their nests were neatly made of dry and green reeds, closely woven together, often arched over above, and looking very pretty with the large, pure white eggs. Sometimes they, too, were imposed upon by the careless Redheads.

Had time and strength not been exhausted, we might have studied the many other interesting birds we saw,—the Mallards, Pintails, and Blue-wing Teals nesting in the grassy borders of the slough, the Long-billed Marsh Wrens chattering in the flags, and the Short-eared Owls and Marsh Hawks on the surrounding prairies; but even the long North Dakota day was drawing to a close, and we reluctantly turned away from the fascinating and almost bewildering scenes of this wonderful locality.

A Tragedy in Nature

BY WILLIAM BREWSTER

AT Lancaster, Massachusetts, on May 24 last, I noticed a swarm of Bank Swallows flying about over the river near a low bank in which were a great number of their nesting holes. It was a newly-established colony, for no birds had bred on this particular stretch of river in 1901 or 1902. Visiting the place again on the afternoon of June 19, I counted one hundred and eight holes but, greatly to my surprise, there were no birds in sight. At length, however, a single pair appeared and one of them repeatedly entered a hole (always the *same* hole) with food for its young. Feeling sure that something must be wrong I approached the bank and examined it attentively. For a distance of about eight feet back from the water's edge the surface of the ground was sandy or gravelly and sloped only very gently upward. Above this for a distance of perhaps six feet (measured along the surface) the slope was at an average angle of about forty-five degrees and the soil, like that of the vertical bank still higher up, pure, fine, hard-packed sand. The vertical portion averaged about two feet in height and was slightly overhung in places by the loamy turf of the pasture land above. All the Swallows' holes were, of course, in the vertical face of the bank, most of them being nearer the top than the bottom and a good many close under the projecting sod. A glance satisfied me that the village boys had not molested them, for they showed no traces of enlargement. What, then, could have banished the birds from so apparently safe and congenial a nesting place? As I was speculating on this point I noticed some scratches on the face of the bank immediately below one of the holes. On examining the other holes I found that only one (that which I had seen the bird enter) was without these tell-tale marks. They resembled deep pin-scratches and extended from the entrances of the

holes nearly or quite to the foot of the vertical part of the bank, while they were also present on one or both sides of several of the holes. Usually there were five of them, from one-eighth to one-fourth of an inch apart and perfectly parallel even where they followed somewhat wavy courses, but in places only two or three could be distinctly traced. Most of them looked rather fresh but some had become much obscured by the action of the weather. Quite evidently some animal with sharp-pointed claws had made them in climbing to, descending from, or clinging just below, the holes. At first I suspected the creature to have been a cat, for I remembered to have seen, last summer, a large black cat perched on a narrow shelf of a sand-bank at Concord, striking at the anxious and excited Swallows as they darted close about her. A little reflection convinced me, however, that no cat would be likely to break up so large a breeding colony as this. I therefore descended to the river bank, hoping to find the solution of the mystery there. Nor was I disappointed, for the entire expanse of smooth, wet sand along the water's edge was thickly covered with *mink tracks*. They were of various ages, from perfectly fresh-looking imprints that clearly showed the marks of the animal's toe-pads and even claws to dim impressions blurred by wind and rain. As nearly as I could judge all the tracks must have been made by a single mink, or, if by more than one, at least by animals of nearly the same size and age. They extended back from the water as far as the sand was sufficiently loose to enable them to be traced.

I next looked for remains of the birds. Those of at least six Swallows were quickly discovered scattered over the sandy flat near the edge of the water, while further back, in a crevice behind a huge clod of turf which had fallen from the bank above, were those of at least as many more. In most instances they consisted merely of piles of feathers, with perhaps the terminal joint of a wing, but from beneath the clod I took the entire head, wings and feet of one Swallow still joined together by skin and cleanly picked bones (including the sternum) and the wings, bill and one leg of another similarly connected by skin but with all the bones (save those of the wing and leg) missing. The two birds last mentioned were adults, but all the other remains were unmistakably those of young, well-grown and covered with sprouting feathers of the first or natal plumage.

The space beneath the clod, although wide and deep, was nowhere more than four or five inches in height. Hence it could scarce have admitted any animal larger than a mink. That one or more of these blood-thirsty creatures had feasted long and sumptuously on the unfortunate Swallows, no doubt eating on the spot or carrying off to more distant retreats practically all the young as well as at least a few of their parents, seems evident from the circumstantial evidence above recorded. It is, indeed, sad to reflect that such tragedies must be of not infrequent occurrence in nature, and humiliating that we are so nearly powerless to foresee and prevent them.

Nesting Habits of Two Flycatchers at Lake Tahoe

BY ANNA HEAD

TWO species of Flycatchers were very common on the shores of Lake Tahoe, especially during July and the first of August, when the silence of other birds brought into prominence their persistent, unmusical calls. Each species had an area peculiar to itself, and, indeed, each individual pair claimed a limited circle of land, and would allow no trespassing near their nesting-tree.

The larger of the two, the Olive-sided Flycatcher, chose the very shore of the lake, where immense pines and firs grew in open order on the sandy shore. The first pair I noticed had chosen a nearly dead cedar, about one hundred feet high, as a perching-tree, since from the tip of a bare bough a wide and clear outlook was to be had. Here one or the other of them would perch, never silent from dawn until dark, but flirting its tail, turning its head restlessly from side to side, and uttering its dissyllabic cry of "hip-hip" or "quilt-quilt" at intervals between rapid dashes after winged insects. As it whirled and tumbled in the air in frantic pursuit of a moth, it almost seemed to be coming to pieces, so loosely was it jointed, till a loud *click* of the beak announced success, and in an instant it was back on its perch, looking as if it had always sat there. There were two other notes, heard not quite so often. The more musical was, I think, meant for a song, and was heard chiefly in the early morning and dusk of evening. It consisted of three notes, in a sort of whistling tone, with the emphasis on the second. Each syllable was loud, however, and uttered with a separate effort, so that it carried far. This song may be expressed by the following syllables: "whip-péw-hip!" A third note was more like a twitter, and was uttered during excitement, chiefly when the young were learning to fly. It sounded like "why, why, why," repeated very rapidly a number of times. Sometimes this note was given as a prelude to the real song.

On July 22 I found a nest on the tip of a slender fir branch, not more than twenty feet from the ground, and in full sight of the favorite perching-tree of this pair. It contained three fully fledged young. They were a pretty sight as they stretched their little wings, craned their necks, and tipped along the fir-twigs. They were rather more brightly colored than their parents, whose plumage was somewhat worn at that season. Their heads were a dark, smoky gray, looking almost black in contrast with a light gray streak which went down from the angles of the beak, and a white streak on the center of the breast. Only the Yellow Gape showed immaturity, and they spent a great deal of time preening their glossy feathers. The parents visited them often, catching insects and delivering them on the wing, with a light, swallow-like action. They never perched far away,

and seemed not at all shy, though keeping a sharp look-out for the welfare of their young.

The next morning the young took their first flight, already seeming quite expert, and choosing bare twigs to perch on, like all their race. They gave the characteristic, three-syllabled call clearly the first day, though more softly than their parents. For more than a week the family kept together near the nest. The last part of the time there seemed to be a good deal of flutter and scolding going on. I think the old ones were trying to induce the young to catch their own game.

The nest was a very frail structure, open and flat, consisting of gray fir-twigs laid rather than woven, and quite without fixing together. The parents must have depended on the thick fir-needles for keeping the eggs and young from falling to the ground. Another nest was placed very near the top of a tall fir-tree, also, near the tip of a small branch. This was nearly two hundred feet from the ground, I should judge. The flight and actions of the old birds as they fed their young were unmistakable. This tree was also situated near a skeleton fir that gave a wide outlook for the parents while hunting, and contained, besides, the nest of a Robin and of a Cassin's Purple Finch.

By August 24, all birds of this kind had disappeared from the neighborhood, where the absence of their loud, incessant calls gave the effect of almost utter silence. They were probably starting slowly with the young birds on their long migration, but there had been no frost, nor was there any perceptible diminution in the number of insects.

If the note of the Olive-sided Flycatcher was the prevailing sound in the evening, the western Wood Pewee, with its monotonous plaint, made up the body of the morning chorus in July and August. This note is not easy to spell in letters. It has been variously given as "peèr," "pée-wee" and "sweer." I think "dré-ear" is better suited to the expression. The most noticeable quality is the despairing emphasis on the first syllable, as if it were forced out with the last gasp of agony. I defy any one to remain cheerful with this sound ringing in his ears at all hours of the day.

At Tahoe these birds were far more common than the larger Olive-sided Flycatcher. They did not come into conflict with them, however, for they chose a slightly different haunt. Instead of the open woods of ancient trees on the shore of the lake, they preferred the annually flooded meadows back from the shore, covered with a growth of young tamarack trees, many of which were dead or dying. These moist, wooded meadows were swarming with mosquitoes and other insects, which attracted many birds.

This Flycatcher would sit very straight and slim on a bare twig, turning his head incessantly and every few seconds uttering his cry.

Their favorite nesting site was a dead tamarack, stripped by the weather of its bark. A very conspicuous object in this situation one would expect

their large, deeply cupped nest to be; but when the parents did not betray its presence by their restless anxiety, it very easily escaped notice, so well was it matched with its surroundings. It was usually placed in a horizontal limb, near the main stem and about twelve or fifteen feet from the ground. As bunches of cones and rolls of bark were often to be seen in the same situation, it was not conspicuous, especially as the color exactly matched that of the dead limb. Those which I took to pieces were woven very firmly of strips of woody fiber and thin gray bark stripped from manzanita and ceanothus bushes after they had been fire-killed and had weathered several winters. This bleached and seasoned material gave a very soft and firm structure, which was softly lined with feathers by the little builders. It was totally unlike in appearance to the green mossy nests built high in oak trees by this bird when it nests among the oak-grown hills of the Coast Range. The only quality they had in common was their beauty of finish and their perfect adaptation to circumstances.

These birds showed great affection and solicitude for their young, returning to the nest immediately after I had left the tree, and flying at my face with snapping beak, even when I was removing an empty nest. A female was still engaged in incubation August 14, but, as this nest was stolen, I do not know if she would have been able to rear the young before migrating.



KINGBIRD AND NEST IN A DEAD BRANCH PROJECTING OVER WATER

(Published by courtesy of the Geological Survey of Canada)

For Teachers and Students

How Birds Molt

BY JONATHAN DWIGHT, JR., M.D.

IN spite of much that has been written in the past about the molting of birds, the subject is by no means threadbare, and I hope that a brief sketch of the complicated process of feather-renewal will stimulate interest in its further study. Periodically, old plumage is cast aside feather by feather as new ones grow, and so gradually does this take place that most birds are able to fly about as if nothing unusual were in progress. Many species (among them the Thrushes, Wrens, Blackbirds, Jays, Woodpeckers, Hawks, Owls, and a few others) wear only one plumage throughout the year, exchanging the more or less ragged remains for a fresh suit at the end of the breeding season; while many Warblers, Sparrows, Waders and others molt part of their body plumage a second time in the winter or spring. These two molts are the postnuptial and the prenuptial, giving distinctive winter and summer plumages.

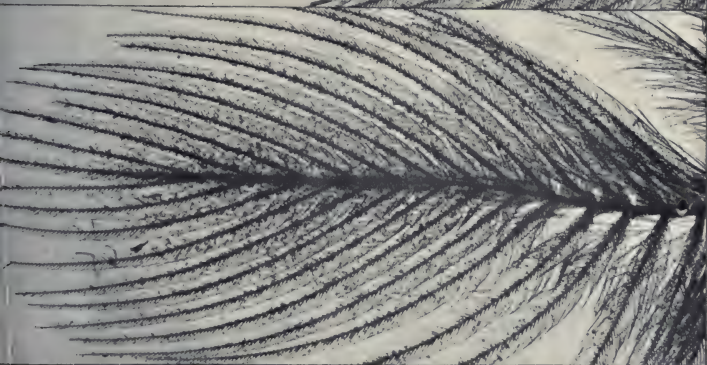
Two plumages are peculiar to young birds—first, the natal, the stage of soft, downy baby-clothes, and, second, the juvenal or knickerbocker stage. The weak, juvenal feather of a young Purple Finch is shown by the half-tone which is from a photomicrograph. Both plumages of young birds vary greatly in different species. We are familiar with the little tufts of natal down scattered on nestling Sparrows, Thrushes, or Warblers, and the dense covering of Ducklings, Gulls, Game-birds or Hawks and Owls. In Woodpeckers it is aborted.

The juvenal plumage, delicate and transient in most land birds, may be worn wholly or in part for many months in large species, and is often confused with other plumages. If, however, we bear in mind that there is nothing haphazard in the growth of feathers and the sequence of molts and resulting plumages, our ideas upon the subject will become very much clearer. At a definite time and at a definite point of the skin, each and every feather grows, and plumages are only successive generations of feathers.

Abrasion, attrition and weathering of feathers go to make up wear which sometimes produces surprising color-changes in plumages. The loss of the brown feather edgings of, for instance, the fall Snowflake or Red-winged Blackbird, displays the black hidden beneath, and the loss of the little barbules of the feathers of Crossbills or of the pink Purple Finch brightens red colors by subtracting the gray tints. The first



Fresh juvenile plumage feather



Fresh first winter plumage feather

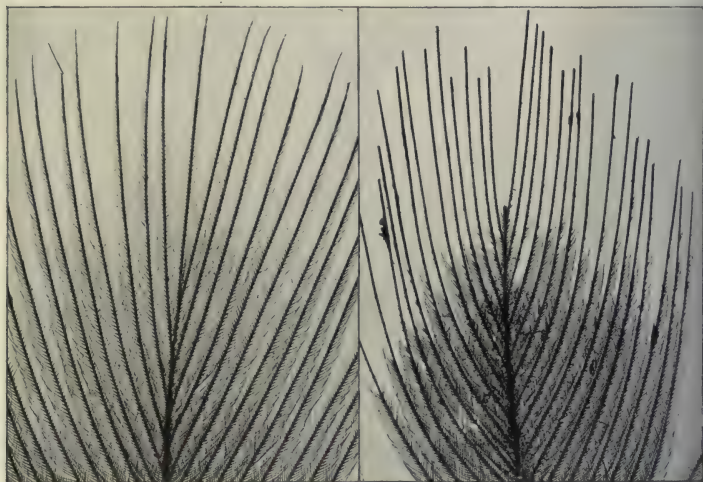


Worn first winter plumage feather

PHOTOMICROGRAPHS OF PURPLE FINCH FEATHERS

effect of wear is shown by photomicrographs of *brown* Purple Finch feathers, and the second is shown by the figures of Crossbill feathers. We have illustrated also the effect of wear on a Meadow Lark, showing how the lighter-colored parts of feathers may disintegrate.

The growth of each feather is a chapter by itself. The histologist with microscope and cross-sections tells us how beneath the old feather, resting in a pit or follicle of the skin, certain cells group themselves and multiply until a papilla or feather germ is formed. This pushes out the



Fresh feather

Worn feather

PHOTOMICROGRAPHS OF CROSSBILL FEATHERS

old feather and lengthens into a pulpy cylinder from the apex of which the 'pin-feather' expands, being built by the pulp cells from the tip downward and from the edges inward as the papilla elongates. This is but a rude way of expressing the very elaborate process of feather-growth completed when, in the course of a few weeks, the pulp of the calamus, or quill-part of the feather, dries up. Each papilla produces a new feather at the time of a molt (and also whenever one is accidentally pulled out) and enjoys a period of rest between times. The individual feathers of the natal plumage, technically known as *neossoptiles*, are exceptions and are continuous in growth with the tips of the feathers of the juvenal plumage.

A molting bird is as confusing to examine as any prize puzzle, but series

of specimens taken after the breeding season show that molt begins at definite parts of the body and the reclothing extends in definite directions. The wonderfully systematic and gradual renewal of plumage is best seen and measured in the wings, for a gap appears at the middle of the quill-feathers, extending outward until but three or four primaries remain, then extending inward among the secondaries, so that the new innermost of these and the outermost primary reach maturity at about the same time. It should be noted that the tertiaries (three in small birds, more in others) are partly renewed before the secondaries begin to drop out. The wing-coverts are replaced in alternate rows. There is a time relation between all that goes on in the wings and the growth of body-plumage, which begins to be molted at a number of points, so many, in fact, that the renewal is traced with some difficulty. When the wings are grown, at the end of a month or two, depending upon the size of the bird, the body plumage has also completed its growth. As for the tail, usually after the fall of several primaries, the middle pair of feathers drops out, followed rapidly by successive pairs, so that very often a bird will appear 'bob-tailed' if the new middle pair is slow in growth. Woodpeckers lose the middle pair last, and irregularities are found in other species.

At the end of the breeding season every species of bird undergoes a complete molt. Land birds and the Gulls and Vaders molt as just described, but water-owl, that protect themselves by swimming and diving, as well as by flight, such as the Ducks, Grebes, Loons, Guillemots, and others, molt the quill-feathers of the wings all at once, so that for a time the birds are unable to fly. The males of certain brightly plumaged species of Ducks are protected for a couple of months by a dull body plumage that begins to appear before their young broods are out of



WESTERN MEADOWLARK

U. S. N. M., No. 127493, ♀, Aug. 14, 1892, San Bernardino Ranch, Ariz., E. A. Mearns. Showing abrasion and fading of plumage. From the Bull. Amer. Mus. Nat. Hist.



Upper figures, interscapular feathers of Meadowlark, at left, Am. Mus. No. 49229, ♂, Morristown, N. J., Oct. 3, 1886, E. C. Thurber; at right, Am. Mus. No. 69696, ♂, Trenton, N. J., May 29, 1886, M. M. Green. Lower figures, interscapular feathers of Western Meadowlark, at left, Am. Mus. No. 52416, ♂, Ft. Verde, Ariz., Nov. 23, 1884, E. A. Mearns; at right, No. 52413, ♂, Yavapai Co., Arizona, March 18, 1884, E. A. Mearns. To show seasonal abrasion. From Bull. Am. Mus. Nat. Hist.

the nest. The Ptarmigan also have a similar protective plumage, but their wing-quills are molted in regular succession.

Owing to the great variation in the time at which different species molt, there is no time in the year when molting birds may not be found. The postjuvenile molt of some birds will overlap the prenuptial of others, and the prenuptial of others seems to overlap even the postnuptial. Partial molts produce mixed plumages and the feathers that, not so long ago, were supposed to change color without molt. Keeping in mind that each species has a definite sequence of molts and plumages, we shall the more readily understand variations and mixed plumages. In birds like the Purple Finch which molt but once in the year, we find no mixed plumages. Young Purple Finches remain a year in brown, and then molt into the pink plumage. Many other species, however, like the Rose-breasted Grosbeak or the Sanderling, molt twice a year, and the partial prenuptial molt gives the confusing mixture of old and new feathers so often

found, especially in young birds and females that vary between wide limits in the extent of the renewal. The adult Baltimore Oriole molts once in the year, while the young bird undergoes a prenuptial molt of all the body-feathers. And so there is a particular sequence of molts and plumages peculiar to each species.

Those who care to turn to the fascinating study of molt will find the following table a simple and useful guide:

1. Natal plumage followed by postnatal molt.
2. Juvenile plumage followed by postjuvenile molt.
3. First winter plumage followed by first prenuptial molt.
4. First nuptial plumage followed by first postnuptial molt.
[First protective plumage followed by first postprotective molt.]
5. Second winter plumage followed by second prenuptial molt, etc.

Not every species may have all of these molts and plumages, but this is the order in which they would naturally follow.



OTTO WIDMANN, *Missouri*



F. H. KNOWLTON, *Vermont*



J. H. FLEMING, *Eastern Ontario*



R. W. WILLIAMS, JR., *Western Florida*

BIRD-LORE'S ADVISORY COUNCILORS

SIXTH SERIES



What Bird is This?

Field Description.—Length, 5.50 in. Above, olive-green, head slaty; throat and breast blackish margined with whitish; belly yellow; no white eye-ring; no white in tail.

NOTE.—Each number of BIRD-LORE will contain a photograph, from specimens in the American Museum of Natural History, of some comparatively little-known bird, or bird in obscure plumage, the name of which will be withheld until the succeeding number of the magazine; it being believed that this method of arousing the student's curiosity will result in impressing the bird's characters upon his mind. The species figured in August is a Savanna Sparrow in fall plumage.

Questions for Bird Students

VI

27. What theory has been advanced to account for the remarkable variation in the colors of Murres' eggs?
28. What birds drink without removing the bill from the water until the draught is finished?
29. How many days after hatching do young Hummingbirds leave the nest?
30. Note an instance of migration among North American birds to a winter home, distant about 3,000 miles by sea.
31. In what species of birds is the male known to sing while on the nest?

Notes from Field and Study

European Birds in America

When, within twenty minutes, one can observe, as did the writer in Central Park, on May 17, 1903, European Greenfinch, European Chaffinch, European Goldfinch, European Starling, and European House-Sparrow, from an ornithological standpoint we must surely speak of the European invasion of America, instead of vice-versa.

Although successfully introduced into this country only as recently as 1890, the Starling is already a very abundant permanent resident of New York City. During the winter the writer has observed, in the neighborhood of Columbia University, as many as a hundred individuals in one flock. The bird has already extended its range for a radius of some twenty-five miles about New York City, and in some directions probably farther.

The European Goldfinch has not multiplied so rapidly, but careful search in Central Park will seldom fail to locate a few of these cheery little songsters. In the winter flocks are formed and as many as thirty have been seen together—also near Columbia University.

Of both the Chaffinch and the Greenfinch the writer has been able to find but one individual. The Greenfinch was a solitary male observed in the "Ramble," Central Park, on May 17. He was singing contentedly and, from the perfect condition of his plumage, gave no evidence of recent captivity. The Chaffinch was the bird—no doubt familiar to many readers of *BIRD-LORE*—which for some months has never moved from one spot on the west side of the park, about Eighty-fifth street. He, too, is a bachelor, well meriting his Latin name *Fringilla coelebs*.

Of the five European birds named, the Goldfinch and the Chaffinch are the most attractive. They are fortunate in possessing beautiful plumage, sweet voices and a pleasant disposition, and they build the

neatest little nests; this is more than can be said of the other species. However, even with these attractions, it is a debatable question whether they are desirable additions to our avifauna. The May-June *BIRD-LORE* informs us that in South Australia the Chaffinch, which was introduced, has already become so injurious as to be regarded unworthy of protection. As for the Starling, its rapid increase offers only too evident proof that it will not be many years before it gains in this country the position which it holds in England, in being second only to its compatriot, the House Sparrow, in dominion over the land. Then ill will fare our Bluebirds and our Martins, our Crested Flycatchers and all others that nest in holes, as do the Woodpeckers of England, by the persecutions of this pugnacious bird. To be sure he possesses a song, but it is third-rate at best, and the beauties of his plumage can be appreciated only at close quarters; let us only hope that he will not, under the new conditions, change his diet, which at present is chiefly insectivorous, or woe betide the farmer beneath the ravages of his vast winter flocks!—C. G. ABBOTT, *New York City*.

The Carolina Wren at South Norwalk, Connecticut

After careful inquiry I feel sure that a pair of Carolina Wrens that I saw April 7, 1900, is the first known appearance of this bird in Norwalk, Connecticut. Two winters of watching other birds of this species makes me certain that the first pair seen did not winter, else they would have been seen or heard, as their range has been restricted and one was more sure of finding them than any other bird.

The spring of 1901 a pair of Carolina wrens took up their abode in an old lane bordered by dilapidated stone fences and bush corners, and though they nested, the site was not discovered. These birds

wintered, and never strayed far from the old lane, or the tangles around a chain of small ponds close by. They were always together and part of the time in company of a male Chewink, and their merry whistle was heard even when the snow was deepest, and one wondered where they procured their food. May 2, 1902, I found their nest, the first one known about Norwalk. It was built on the ground in the old lane, and was composed of moss and leaves, in form being very much like an Oven-bird's nest. May 6, the old birds had torn away the top of the nest, leaving the four young exposed, and the next day the young left the nest.

A number of pairs wintered the past season, but in the same restricted range, and I take them to be the young of the past seasons. This year, 1903, one pair nested near the old site, another pair built early in April, behind a board in the peak of an old barn, which scarce withstood the winter's storms. Unlike the first nest found, this nest was built of hay, ferns, rootlets and feathers and was lined with white horse-hair from the tenant downstairs. The young, four in number, flew May 2.

During nesting time the old birds sang from daylight till dark, attracting the attention of everybody in the neighborhood.

When I told the owner of the barn I wished to find the nest, he said, "All right, and if you do you can have the young, too." When told of the birds' worth on his farm, and asked why he would be rid of them, he answered, "The old bird gets on the barn at break of day and whistles so loud he wakes me up, and I cannot go to sleep again, because of him."

At this time, May 11, the family is still together, and find a welcome home behind the old barn.—WILBUR F. SMITH, *South Norwalk, Connecticut.*

Mortality Among Birds in June

From the reports of a number of correspondents we quote the following observations in regard to the mortality among young birds in June last, incident to the prolonged rains and unseasonable weather:

Mr. William R. Lord writes from Rockland, Massachusetts: "I wonder if any one has reported to you the fact that the extraordinary prolonged cold weather in June resulted in the death of all, so far as we can learn, of the young of the Martins and Barn Swallows in the region of Plymouth county, Massachusetts? and, what is more to be regretted, the death of many of the adult Martins, due to starvation. The latter have been taken from their boxes and picked up in the field about my own town, Rockland, and about Hanover.

"The cold weather seems not only to have numbed the insects so they could not fly, but, at last, to have killed them outright. Farmers report no grasshoppers or crickets in their mown fields and speak of it as a strange experience. If these insects have been killed, the smaller and more aerial species must have suffered more severely. One man reports twenty-one dead Martins, young and old, and a number report the same facts as of Martins and speak of the death of young of the Barn Swallows, giving definite numbers of the latter.

"In general, it has been a hard year on birds. Dry weather preceded the cold, and later many nests containing young were blown down and some young were chilled and perished. I wonder if this experience is a wide one? If so, it will be felt next year.

"I should say also that the Barn Swallows, Martins and Chimney Swifts disappeared from their haunts about here about the time the dead were found."

Mr. Henry Hales writes from Ridgewood, New Jersey, under date of June 20: "My old barn has been the breeding-place for a lot of Barn Swallows every year since I have lived here and long before. Every summer quite a colony come to it and to another barn across the bay. Seeing this year only a solitary pair, it was supposed the birds' absence was due to Cats, Squirrels or House Sparrows; but, to my astonishment I find the same conditions all through the country about here. I sometimes travel twenty miles a day and see only two or three birds."

Mrs. William C. Horton, of Brattleboro, Vermont, writes: "The attractive colony of Purple Martins, occupying the bird-house belonging to William C. Horton, of Brattleboro, Vermont, met with fatal disaster during the long rain in June. The colony of about thirty birds came to the house as usual in April. It was known from appearances in June that the birds were incubating and brooding. June 23 Mr. Horton observed that there were no Martins flying about, and climbing to the bird-house to ascertain the cause, found the dead bodies of thirty little birds, twelve unhatched eggs and one pair of adult birds dead on the same nest, covering four decomposing little ones. The nests, usually so warm and dry, were completely water-soaked.

"About ten days after the house had been cleansed one pair of birds returned and flew many times about the house, almost daring to enter, and yet apparently fearful to do so, at the same time uttering cries. Presently one alighted momentarily on one of the spires and said something to his mate, when both flew away. Occasionally, since that time, one or two pairs have returned to fly about, but not to enter the house.

"This bird-house has been the home of the Martins every summer for twenty-five years, and this is the first disaster that has befallen the colony.

"On the same grounds a Black and White Warbler brought her young from the grove where she had nested. When first observed, the little ones could fly quite well, but as the day advanced, and the rain and chill increased, the little ones grew weaker. One curled itself up exhausted and was taken into the house for the night, but in the morning it was dead, and all the voices of the other little ones left outside were silent. The parent Warblers are evidently building another nest, as they are carrying nesting materials among the shrubbery.

"The Song and Chipping Sparrows, Wood Thrush, Robin, Downy Woodpecker, Catbird, Wood Pewee and a family of Tree Swallows in a box under the roof of our house were all successful in bringing their families out safely, and we are visited daily by many of these friends."

Mr. J. Warren Jacobs, of Waynesburg, Pennsylvania, reports as follows concerning his Martin colonies, in which, through Mr. Jacobs' studies,* so many bird-lovers have become interested:

"Only one brood of Martins in my colonies escaped death as a result of a three-day's cold wet spell ending June 15. Ten broods in house No. 2 and eleven or twelve in house No. 3 succumbed. On this date all nests in house No. 4 contained eggs.

"From house No. 2 I took forty young and one old dead bird. Under this old bird were five young, four of which were still alive, but cold and almost stiff. I put these in a cloth and warmed them and they were soon able to move about and make a noise. We fed them flies, a few butterflies and a small number of angleworms (the latter for convenience, as butterflies were scarce). The first night the weakest one died, one died during the day and on the second night the last two died.

"This made a total of forty-five young and one old bird from box No. 2. In No. 3 I found thirty-nine young and two old birds dead. From a room in this box came the faint squeak of young which survived. This is all that lived over this unfortunate period.

"The number of nests containing eggs on June 15 was close to forty. All of these eggs, except two sets, were hatched, and these two sets were deserted, probably because of death of old birds during the bad weather.

"July 18 to 25 the young were coming out daily. Then there was a lull until after August 10, when the outcoming young were again numerous. I should have previously mentioned that the birds which lost their young rebuilt immediately, and from their nests came the young mentioned here. I think all these unfortunate parents laid eggs and reared broods, as on August 10, there were twelve broods in house No. 3. This is the house which had contained eleven or twelve nests full of dead young.

"In my booklet on the Martin Colony—page 20—you will note a statement that a cold, wet spell beginning on June 27 and

* 'The Story of a Martin Colony' by J. Warren Jacobs.

continuing a week was the cause of the death of one hundred and fifty young and several old birds. Did the old birds know that it would be too late to rebuild and rear broods? None of them attempted this. Yet this year's misfortune did not deter them from hatching second broods, although only nineteen days earlier than last year's mishap.

"At the bird-house of John Reese, two miles west of town, forty-five dead young were found, and he told me this morning that he had plenty of birds just coming out. Joseph Patton, who bought a Martin house of me in 1902, took fifteen dead birds out of his box on June 15, and found seven others still living. Amos Allison, three miles east of here, had a colony in an old box near his old residence, which he wished to divide by inducing some of the birds to come to an elegant box of forty rooms he erected near his new residence, some hundreds of yards from the old. None of the birds built in the new box until after the rain, when the whole colony moved to his new box, built nests and raised young.

"All other boxes in use in this town, which I have been able to see lately, still contain young birds all apparently about the same age as those at my own houses. All of which goes to show that where the old birds escaped death, pretty generally, second broods were hatched."

Under date of September 9, Mr. Jacobs adds: "Since sending my observations on the Martins I have taken the final notes for the fall, and present them herewith:

"August 27.—Have watched the birds come in evenings and go out mornings, as usual, until August 24, when I was called away to Pittsburg, returning to-night. The birds came home, but my father did not know in what numbers.

"August 28.—The morning birds were away by daylight, unnoticed. In the evening about fifty birds came, but only a few entered the houses for the night.

"August 29.—In the morning, one old male was noted about 9 o'clock soaring over the town.

"This was the last seen of the birds here this fall."

Economic Value of Game Birds

A despatch from Cheyenne, Wyo., to the New York "Herald" says:

"The devastation of the ranges along the Big Laramie and North Platte rivers by vast swarms of grasshoppers can be traced directly to the killing of the Sage Chickens in those districts.

"The Chickens have been practically exterminated, and their disappearance was followed promptly by the appearance of the grasshoppers.

"The insects have done incalculable damage during the last three years, and the ranchmen, realizing the cause of the invasion, are considering plans for propagating Sage Chickens and reestablishing them on the range.

"The next Legislature will be asked to pass a law protecting Chickens at all times. Their increase is to be encouraged in every way. Other parts of the state where Chickens are becoming scarce are beginning to learn the same lesson.

"Everywhere Chickens are scarcer this year than ever before, and grasshoppers are more plentiful. Sage Chickens consume enormous quantities of insects, and there is little doubt that within a year they will be protected."

Red Crossbills in New Jersey, in July

In the northern part of Somerset county, N. J., where I was spending my vacation this summer, I had the pleasure of finding a flock of six Crossbills. They were first observed on July 19, around some cedar trees which flanked both sides of a roadway. They were very tame, and I was able to sit down within six feet of them and watch them. Two were males, showing quite a quantity of red in their plumage. When startled they would fly a short distance away uttering twittering notes as they flew.

About an hour after I first saw them, I went to look for them again and found them in exactly the same trees. Early the next morning they were in the same neighborhood, but during the day they disappeared and were not seen again.—GEORGE E. H. New York, N. Y.

Book News and Reviews

CATALOGUE OF CANADIAN BIRDS, PART II. BIRDS OF PREY, WOODPECKERS, FLY-CATCHERS, CROWS, JAYS AND BLACK-BIRDS. By JOHN MACOUN, Naturalist to the Geological Survey of Canada. Ottawa, 1903. 8vo. pages i-iv+219-413.

It is with much pleasure that we receive the second part of this useful catalogue of birds, the first part of which, issued in 1900, was reviewed in BIRD-LORE for August of that year.

The method adopted in the preceding volume is here continued and includes a full treatment, with authorities for every statement, of the distribution of each species, notes on its breeding habits and a list of the specimens representing it in the museum of the Geological Survey of Canada.

The work contains not only reference to previously published material, but much new information obtained by Mr. Macoun and his assistants on the survey, and thus becomes an authoritative as it is an invaluable manual of Canadian ornithology.

We observe with satisfaction a note by Dr. Robert Bell, director of the survey, to the effect that the third and concluding part of this important work will appear this autumn.—F. M. C.

CASSINIA. Proceedings of the Delaware Valley Ornithological Club for 1902.

This, the sixth report of the proceedings of the D. V. O. C., and the second issued under the title 'Cassinia,' contains a biographical sketch of Edward Harris, by George Spencer Morris, with a full-page portrait of this friend of Audubon's; Cassin's Bunting in New Jersey,' by Samuel N. Rhoads; 'The Unusual Flight of White Herons in 1902,' by William B. Evans; 'Notes on the Germantown Grackle Roost,' by Arthur Cope Emlen; 'The Heart of the New Jersey Pine Barrens,' by Herbert L. Coggins; 'Report on the Spring Migration of 1902,' by Witmer Stone; 'Birds that Struck the City Hall Tower in 1902'; 'Abstract of the Proceedings of the D. V. O. C. for 1902'; 'Bird Club Notes'; 'List of Officers and Members.'

OUR FEATHERED GAME, A HANDBOOK OF THE NORTH AMERICAN GAME-BIRDS. By DWIGHT W. HUNTINGTON. Charles Scribner's Sons. New York, 1903. 12mo. xii+396 pages, 8 full-page colored plates, 29 full-page half-tones.

This book is written largely from the standpoint of the sportsman who knows his birds chiefly during the shooting season, and as such it appeals most strongly to sportsmen. The author, however, appears to be well versed in the literature of his subject, and numerous references to the works of others add to the value of his book.

With the exception of several species which have been greatly in demand for millinery purposes, game-birds have, for obvious reasons, decreased more than any other American birds. Mr. Huntington pays especial attention to this phase of his subject, and presents many records of 'bags' of game made in the days of the muzzle-load, with illuminating comments on the comparative scarcity of game-birds to-day.

The book is illustrated by eight colored plates from paintings by the author of 'Characteristic Hunting Scenes' and by numerous photographs of mounted birds.—F. M. C.

The Ornithological Magazines

THE AUK.—Among the articles of general interest in the July 'Auk' we find 'Notes on the Ornithological Observations of Peter Kalm,' by Spencer Trotter, who pleasantly summarizes the botanist's brief remarks upon the birds seen during his travels in America, about 1750. A. H. Clark writes on the habits of Venezuelan birds, and Witmer Stone takes up ' * * * Winter Crow Life in the Delaware Valley.' The general reader will also find two annotated lists, one on the birds of Madison county, New York, by William R. Maxon, and one on those of interior British Columbia, by Allan Brooks, the latter writer illustrating his paper with a colored plate of young Ducklings. The specialist will en-

joy a couple of technical papers, one by Witmer Stone on 'The Generic Names of the North American Owls' and one by L. M. Loomis on 'Recognition of Geographical Variation in Nomenclature.'

Among notes, we find one by J. H. Clark on 'A Much-Mated House Sparrow,' which deals a sad blow to the general belief in the devotion of mated birds. It is to be hoped it is only another instance of the English Sparrow's general depravity as he becomes more civilized.

A new 'new edition' of 'Nuttall' is reviewed. The collection of annotated excerpts that modern publishers offer would scarcely be recognized by Nuttall as his handiwork, and the modernizing is to be deprecated. A twelfth supplement to the harried Check-List occupies the final pages. In justice to myself as a member of the approving committee, I may be 'permitted to say that I do not believe in many of the accepted changes, especially the multiplication of genera. Similarities rather than differences should be the basis for genera, otherwise the systematist will soon have each species in a genus by itself.—J. D., Jr.

THE CONDOR.—The July number of 'The Condor' contains a report of the 'Joint Meeting of the American Ornithologists' Union and the Cooper Ornithological Club of California,' with three of the papers which were presented on that occasion, namely: 'Call Notes of the Bush-Tit,' by Grinnell; 'Notes on the Bird Conditions of the Fresno District,' by Miller, and the 'Cassin Auklet (*Ptychoramphus aleuticus*)' on Santa Barbara Island, by Robertson. Readers will find in these articles an epitome of the meeting, but the pleasure of seeing the many beautiful lantern slides, and of personal contact with the forty or fifty members present on that enjoyable occasion, can only be reproduced in the memories of those who were fortunate enough to attend the tenth anniversary meeting of the Cooper Club.

Among the other articles in this number may be mentioned Bailey's notes on 'The White-necked Raven' in western Texas, Cary's 'Morning with the Birds of Juan Vinas, Costa Rica,' and Bohlman's 'Nest-

ing Habits of the Shufeldt Junco,' near Portland, Oregon,—each illustrated with one or two half-tones. Mailliard contributes some 'Notes from Santa Barbara, California,' in which he calls attention to the early molting of birds in that locality; Stephens concludes his 'Bird Notes from Eastern California and Western Arizona,' and Fowler adds some 'Stray Notes from Southern Arizona,' on the Elf Owl, Arizona Woodpecker, Rivoli and White-eared Hummingbirds.

Two of the illustrations deserve special mention: The frontispiece, which is a reproduction of one of Bohlman's superb photographs, showing the nest of the Shufeldt Junco in situ; and the portrait of Dr. Edgar A. Mearns, which forms the third instalment in the series of portraits of eastern ornithologists.—T. S. P.

THE WILSON BULLETIN.—No. 43 of 'The Wilson Bulletin' contains the following articles: 'All Day with the Birds,' and 'Brewster Warbler in Ohio,' by Lynds Jones; 'Birds of DeKalb County, Georgia,' by R. W. Smith; 'Some Birds of Florida,' by J. M. Keck, and 'The Nest of the Orchard Oriole,' by R. W. Shufeldt. The general notes include observations on 'Unusual Birds at Oberlin, Ohio,' by Lynds Jones; 'Notes from Dutchess County, New York,' by M. S. Crosby, and 'Mountain Bluebirds Increasing in Boulder, Colorado,' by Julius Henderson.

On a certain day in May each year since 1898, Lynds Jones has made an effort to secure the highest daily record of species for the season, and in 'All Day with the Birds' he has given several interesting tables, so arranged as to show on how many occasions the species were observed. Seventy-four species out of a possible one hundred and thirteen were seen on each year. We are always glad to see local lists, as they give an insight into the avifauna of definite regions and assist materially in the work in geographic distribution. In his observations on four male Brewster Warblers, Lynds Jones found that the songs had considerable range and varied from the almost typical notes of the Blue-winged Warbler to those of the Golden-winged Warbler. This

variation apparently did not bear any relation to the color-phase of the individuals. —A. K. F.

THE OSPREY.—We have been reliably informed that the editor of 'The Osprey' is perfectly willing to furnish financial support for resuming publication, providing he can find some one among the younger ornithologists who has time and ability to take complete charge of the management, and who will attend to the various details, the proper accomplishment of which are most essential to the production of a progressive and up-to-date magazine. We sincerely hope that Dr. Gill will be successful in securing an able assistant, so that 'The Osprey' may become a regular visitor once more. —A. K. F.

Book News

WE HAVE received no news concerning the proposed publication this fall of the revised edition of Dr. Coues' 'Key to North American Birds.' It is to be hoped that those in charge of the passage of this work through the press will see that the many changes in the nomenclature of North American birds which have been made since the manuscript was completed, some four years ago, will be incorporated in its pages.

THE ATLANTIC SLOPE NATURALIST is a recently-established 16-page bimonthly, edited and published by W. E. Rotzell, M. D., at Narbeth, Pa. The third number (July and August, 1903) contains several articles on birds of more than usual interest, including a record by Ernest H. Hart of the breeding of the Connecticut Warbler in Monroe county, New York; and another, by Mark L. C. Wilde, of the breeding of the Pileated Woodpecker in Cape May county, New Jersey, in 1893.

IN 'SCIENCE' for August 14, 1903, Mr. Charles C. Adams, Curator of the Museum of the University of Michigan, announces the discovery by N. A. Wood, in Oscoda county, Michigan, of the first known nest of Kirtland's Warbler. Mr. Wood found two nests, and evidently reached the southern limit of this rare Warbler's breeding range. We are promised a full report of this important piece of field-work later.

'OUR ANIMAL FRIENDS' enters its thirty-first volume with the issue of its September number, which appears in a new and greatly improved form.

EDUCATIONAL LEAFLET, No. 5, of the National Committee of Audubon Societies is by William Dutcher, and treats of the economic status of the Flicker. Copies of this leaflet may be obtained at cost from the author, at 525 Manhattan Avenue, New York City.

THE Zoölogical Quarterly Bulletin of the Pennsylvania Department of Agriculture, Vol. I, No. 2, contains 'An Analytic Key for the Determination of the Families of Pennsylvanian Birds' and the first part of a 'General Discussion of Our Native Birds by Orders and Families,' by H. A. Surface. Copies of this Bulletin may be had by applying to the author, at Harrisburg, Pennsylvania.

THE Forest, Fish and Game Commission of the state of New York has issued, in advance of its appearance in the annual report of the commission, a pamphlet of some sixty quarto pages, entitled 'The Economic Value of Birds to the State.' The text was compiled by Frank M. Chapman; the illustrations, twelve in number, are by Louis Agassiz Fuertes, and are doubtless the most beautiful colored plates of birds which have been published in this country.

'THE OTTAWA NATURALIST' for July, 1903, contains the third paper in a valuable series on the 'Nesting of some Canadian Warblers,' by William F. Kells.

'THE EMU,' official organ of the Australasian Ornithologists' Union, continues to grow in size and in excellence; an indication, no doubt, of increasing interest in ornithology in the antipodes. The July, 1903, issue, the first number of the third volume, contains 80 pages of text and several excellent half-tones, one of which, of a colony of Sooty Terns, we believe shows more birds than we have ever seen before in one photograph.

'The Emu' is edited by A. J. Campbell and H. Kendall, of Melbourne, and is published at four shillings per copy.

Bird-Lore

A Bi-monthly Magazine

Devoted to the Study and Protection of Birds

OFFICIAL ORGAN OF THE AUDUBON SOCIETIES

Edited by FRANK M. CHAPMAN

Published by THE MACMILLAN COMPANY

Vol. V Published October 1, 1903 No. 5

SUBSCRIPTION RATES

Price in the United States, Canada and Mexico twenty cents a number, one dollar a year, postage paid.

Subscriptions may be sent to the Publishers, at Harrisburg, Pennsylvania, or 66 Fifth Avenue, New York City.

Price in all countries in the International Postal Union, twenty-five cents a number, one dollar and a quarter a year, postage paid.

COPYRIGHTED, 1903, BY FRANK M. CHAPMAN

Bird-Lore's Motto:

A Bird in the Bush is Worth Two in the Hand

FEW families of birds exhibit more widely varying habits than do the Cuckoos. Some species are strictly arboreal, others almost as markedly terrestrial; some are nearly silent, others surprisingly vociferous; some are extremely sedentary, others make prolonged migrations. In their marital relationships and nesting habits equally great diversity is displayed,—Cuckoos being communistic, polyandrous, monogamous, and, possibly polygamous. The European Cuckoo builds no nest, but is parasitic, and is evidently wholly lacking in parental instincts. The Anis have a common nest in which half-a-dozen or more females may deposit their eggs and share the duties of incubation and maternity. And now, to add to this list of incongruities, Mr. Gerald H. Thayer tells us, in this issue of BIRD-LORE, that Cuckoos are nocturnal as well as diurnal, that our supposed recluse, the Black-bill, is, at night, a gay cavorter in the heavens!

Fortunately, Mr. Thayer's observations relate to a common, widely distributed species, and, in due season, bird students in many parts of the country will have an opportunity to confirm them.

'COUNTRY LIFE,' for September, publishes some exceedingly interesting photographs of Baybirds (Knots, Turnstones,

etc.), by Mr. A. Radclyffe Dugmore. Using the decoys and methods of the gunner, Mr. Dugmore entered his blind armed with a camera instead of a gun, and as a result secured a series of pictures which thousands may enjoy, instead of a 'bunch' of birds of doubtful use to any one.

The author of the text accompanying Mr. Dugmore's illustrations appears to have had considerable experience in killing birds which he knows very little about. It would be instructive to learn on just what evidence he bases his statement that "migrating snipe" raise "their young in the neighborhood of the antarctic circle" and then "come north to spend the summer"!

THE twenty-first annual Congress of the American Ornithologists' Union will be held at the Academy of Sciences in Philadelphia, November 17-19, 1903. All bird students, whether or not they be members of the Union, are welcomed to these annual meetings; but we may repeat the opinion, expressed here some years ago, that it is the duty of every one interested in the study of birds to identify himself with the American Ornithologists' Union. Directly or indirectly, personally or officially, we are all indebted to the Union or its members for assistance in our studies, and the support incident to membership is the smallest return we can be called upon to make. Any earnest student of birds is eligible for election as an associate member of the Union. The annual dues are three dollars, in return for which one receives 'The Auk,' the official organ of the Union. Write to your member of BIRD-LORE's Advisory Council and ask him to propose your name, at the November meeting, for associate membership.

THUS far the agreement between the Audubon Societies and the Millinery Merchants' Protective Association appears to be working satisfactorily. The members of the association exhibit a commendable desire to conform strictly to the terms of the agreement, and when the status of certain feathers is in doubt submit them to some one competent to render an opinion as to their eligibility in the trade.

The Audubon Societies

*"You cannot with a scalpel find the poet's soul,
Nor yet the wild bird's song."*

Edited by MRS. MABEL OSGOOD WRIGHT (President of the Audubon Society of the State of Connecticut), Fairfield, Conn., to whom all communications relating to the work of the Audubon and other Bird Protective Societies should be addressed. Reports, etc., designed for this department would be sent at least one month prior to the date of publication.

DIRECTORY OF STATE AUDUBON SOCIETIES

With names and addresses of their Secretaries

California.....	MRS. GEORGE S. GAY, Redlands.
Colorado.....	MRS. MARTHA A. SHUTE, Denver.
Connecticut.....	MRS. WILLIAM BROWN GLOVER, Fairfield.
Delaware.....	MRS. WM. S. HILLES, Delamare Place, Wilmington.
District of Columbia.....	MRS. JOHN DEWHURST PATTEN, 2212 R street, Washington.
Florida.....	MRS. I. VANDERPOOL, Maitland.
Georgia.....	PROFESSOR H. N. STARNES, of Experiment.
Illinois.....	MISS MARY DRUMMOND, 208 West street, Wheaton.
Indiana.....	W. W. WOOLEN, Indianapolis.
Iowa.....	MRS. L. E. FELT, Keokuk.
Kentucky.....	
Louisiana.....	MISS ANITA PRING, 1449 Arabelle St. New Orleans.
Maine.....	MRS. C. B. TUTTLE, Fairfield.
Maryland.....	MISS ANNE WESTON WHITNEY, 715 St. Paul street, Baltimore.
Massachusetts.....	MISS HARRIET E. RICHARDS, care Boston Society of Natural History, Boston.
Minnesota.....	MISS SARAH L. PUTNAM, 229 8th ave., S. E., Minneapolis.
Missouri.....	AUGUST REESE, 2516 North Fourteenth street, St. Louis.
Nebraska.....	MISS JOY HIGGINS, 544 South 30th street, Omaha.
New Hampshire.....	MRS. F. W. BATCHELDER, Manchester.
New Jersey.....	MISS JULIA SCRIBNER, 510 E. Front street, Plainfield, N. J.
New York.....	MISS EMMA H. LOCKWOOD, 243 West Seventy-fifth street, New York City.
North Carolina.....	T. GILBERT PEARSON, Greensboro.
Ohio.....	MRS. D. Z. McCLELLAND, 820 West Ninth street, Cincinnati.
Oklahoma.....	MRS. ADELIA HOLCOMB, Enid.
Oregon.....	MISS GRTRUDE METCALFE, 634 Williams ave., Portland.
Pennsylvania.....	MRS. EDWARD ROBINS, 114 South Twenty-first street, Philadelphia.
Rhode Island.....	MARTHA R. CLARKE, 89 Brown street, Providence.
South Carolina.....	MISS S. A. SMYTH, Legare street, Charleston.
Tennessee.....	MRS. C. C. CONNER, Ripley.
Vermont.....	MRS. FLETCHER K. BARROWS, Brattleboro.
Virginia.....	MRS. J. C. PLANT, Glencaryn.
Wisconsin.....	MRS. REUBEN G. THWAITES, 260 Langdon street, Madison.
Wyoming.....	MRS. N. R. DAVIS, Cheyenne.

THE AUTUMN OUTLOOK

With the echoing of guns from moor and marsh the shooting season opens, the autumnal bird migration sets in, and the various bird protective societies shake off the summer lethargy. For in summer, though the birds are with us and we may go freely to their haunts, the separateness of individuals causes almost a total suspension of organized work. With autumn comes the demand for new clothing, hats in particular, for the way of the world has been to go hatless in summer, with the result that many human beaks are as highly colored as those of Sea Coots, and as we look at the headgear shown in

the shops or advertised pictorially we remember that in May last the Milliners' Protective Association of New York and the State Audubon Society entered into a three-years' compact for the regulation of the trade in bird plumage.

What is the result, and how many other State Societies have followed suit and shown that they are possessed by a spirit of fairness and the willingness to meet reasonable compromise part way?

As to the direct effect of the agreement upon artistic millinery, it is too early yet to predict. The stiff quill remains upon the outing and rainy-day hat even as the Os-

trich plume rightfully clings to the bettermost headgear. The quill is a difficult ornament to replace, and women should be grateful to the Milliners' Association if they can produce it in a legitimate manner from the wings of food birds, and thus keep our consciences and wet-weather appearance in good accord.

On the other hand, the response of the State Audubon Societies has been no uncertain note; and even though the numerical majority has not yet signed, the most important societies that carry the balance of power have at once come to the front and a chain has been formed down the east coast and well across the continent to Colorado; for to the date of writing the list includes Colorado, Connecticut, Delaware, District of Columbia, Illinois, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, Virginia and Wisconsin.

Another demand of autumn is a renewal of financial interest in the doings of the National Committee of Audubon Societies, not only that the issue of its series of Educational Leaflets may be uninterrupted, but that it may distribute these widely and freely instead of being forced to charge even the cost of production.

Leaflet No. 5, 'The Flicker,' the latest to appear, is an example of the great importance of this work; for this Woodpecker of many names has, together with the Meadow-Lark, so long been considered a game-bird, that this tribute to its economic value should be scattered broadcast at this its flocking season, when its well-fed, pigeon-like frame outlined on a tree trunk or taking ants from a bank offers fatal temptation of an easy mark to the lesser owners of guns who imagine themselves sportsmen.—M. O. W.

Reports of Societies

ILLINOIS AUDUBON SOCIETY

This report, while appearing so late in the year, should be dated March 28, as the facts covered by it embrace only the year previous to that date. Our 'facts' are, as usual, both encouraging and discouraging.

The most obvious ones, the statistics, show an increase in membership of 43 adults and 3,462 juniors; a very poor showing for the seniors, but a good one for the children. The total number joining since our organization, April 1, 1897, being about 14,461. There have been two general meetings held with addresses and stereopticon views, and seven directors' meetings, besides numbers of meetings of a local nature, in which the officers of the society have had more or less of an active interest.

We have distributed 6,843 leaflets during the year, 1,500 of which went to milliners in the state, 2,000 to the state superintendent of schools for distribution, and about 2,500 were purchased for the use of farmers' institutes.

Our traveling libraries, two in number, while reported as 'ready for duty' last year, have practically done no active service until recently. This year they promise to do good work.

One of our plans, an illustrated lecture, has passed from the region of hope to that of reality—fifty-six slides were procured, and a charming lecture to accompany them was written by Mr. Edward B. Clark, author of 'Birds of Lakeside and Prairie.' This lecture has already done yeoman's service, the only drawback to its usefulness being its inability to be in two places at once, and the lack of a lantern to send with it.

Our local branches have done better than ever before, and we hear from a number of points of the excellent work done in the schools, of addresses on bird protection before women's clubs, farmers' institutes, etc. The secretary has received letters from 48 of the 2,700 towns of the state—very few—but, at least, a 'little leaven.'

The sending of 1,000 notices of the state law to milliners in the state, and the faithful work of our president, have brought excellent results, many of the largest wholesale milliners agreeing not to handle the unlawful feathers hereafter.

The society mourns the death of one of its vice-presidents, Prof. S. A. Forbes, who was a true friend of the birds and of the society.

While the foregoing items date back to the end of March, one must be added which, at that date was still in the realm of hope. Since that date it has become a working fact, and we are rejoicing that the observance of Bird Day has at last become a law of Illinois. Our state superintendent of schools, Mr. Alfred Byliss, has been greatly in sympathy with the efforts of the Audubon Society in this direction, and stands ready to aid as far as possible in the work of bird study and protection in the schools. As the work of the National Committee draws the various state societies into closer union, and they know more and more of each other's work, there is little to report that is not already a twice-told tale; and yet, each society has its own special interests, its own special wants. One of our 'special' wants is one each society will also claim as *its* special want—more money! We need it for a lantern; for another lecture; to buy charts and leaflets; to hold meetings; to buy books to help our children and teachers; to educate, educate, educate, until every man, woman and child in our state realizes that while the dead wing may have a certain beauty, it is as nothing compared to the 'joyful wing cleaving the sky,' and that while the bird may be of use as food, that use is as nothing compared to its usefulness when *it* is allowed to do the eating! We hope and believe that the outlook for the birds in Illinois grows brighter every year, and feel that they have the right to chant a brave little 'sursum corda' for their native song.—MARY DRUMMOND, *Secretary*.

CALIFORNIA

Miss Josephine Clifford M'Crackin, president of Women's Forest- and Song-Bird Protective Association, of Santa Cruz county, California, which was organized in December, 1900, writes of a project to organize bird-protective associations in different counties, with one state president to whom all are to report.

This is an excellent arrangement for a state of the area of California, where 'local secretaries' would find themselves far apart, though the underlying idea is the same. It is time that California stirred herself in

bird-protective matters, for if the Redlands society has done any active work it has very effectually concealed it, at least from the Audubon Department of BIRD-LORE.

Bird Protection Abroad.—III.

New Zealand

By T. S. PALMER

An interesting article on the birds of New Zealand, by Charles A. Keeler, in the August number of BIRD-LORE, naturally suggests an inquiry as to the protection afforded native species in that distant part of the world. A glance at the map will show that New Zealand consists of two main islands, extending approximately from 35° to 47° S. Lat., with an area of 104,471 square miles. Its corresponding position on our Pacific coast would be from Santa Barbara, California, to Gray's Harbor, Washington; its area is a little greater than that of Colorado and about equal to that of the combined areas of New York, New Jersey, Pennsylvania and Delaware. With the lofty mountains on the South Island, its topography and climatic conditions are as varied as those of any of our western states.

Game protection has received considerable attention in the colony for more than thirty years, and has been fostered largely by the acclimatization societies, which were first organized in the sixties. During this time at least nine game-laws have been enacted. These comprise two principal and seven minor acts, as follows: 'The Protection of Animals Act, 1873,' amended in 1875; and 'The Animals' Protection Act, 1880,' amended by the acts of 1881, 1884, 1886, 1889, 1895 and 1900. These laws, like other institutions of New Zealand, differ radically from those of other countries. Thus, under the act of 1880 'game' is defined as imported animals and birds, while the specific term 'native game' is applied to indigenous species; licenses are given more attention than prohibitions against killing; and the property in game 'turned at large' by an acclimatization society may be vested in the chairman of the society for three years, instead of being vested in the state.

The animals and birds accorded protection are mentioned by name in two schedules of 'game' and 'native game.' Game includes Pheasants, Partridges, Grouse, Ptarmigan, Quail, Snipe, Plover, Swans and imported Wild Ducks; native game comprises Quail, Pigeon, 'Tui' or Parson Bird, Curlew, Dotterell, Pied and Black Stilt, Plover, Bittern, Geese and Wild Ducks. These somewhat meager lists can be extended or curtailed by declaration of the Governor, who, under an important amendment made in 1886, is authorized to prohibit the killing of any native bird absolutely or for such time as may be deemed necessary. Under the act of 1880 the open season for game was limited to three months, May, June and July (corresponding to an open season during November, December and January in the United States), while that for native game lasted four months, and was fixed by notification of the Governor. This arrangement was changed in 1900 by making one fixed season for both game and native game in May, June and July, except for the District of Otago, in the southernmost part of the South Island, where the season begins in April and closes on the last day of June. Poisoning, trapping, snaring, hunting at night, or using swivel guns in the capture of game are all prohibited under the original law. The sections relating to birds kept in confinement are explicit but liberal, allowing birds to be domesticated or kept for propagation, and in such cases to be bought or sold at any time. Under permits from the colonial secretary, eggs or birds may be taken for distribution to other parts of the colony. An important provision prohibits absolutely the introduction of certain species which are considered injurious, namely: Foxes, hawks, vultures, or other birds of prey and venomous reptiles. A violation of this section is punishable by the heaviest penalty mentioned in the act, a fine not exceeding £100 (\$500) or imprisonment for not more than six months.

The enforcement of the law is provided for by heavy fines, appointment of rangers, and by official recognition of acclimatization societies. Fines range from £5 to £20

(£25 to \$100), and are graded according to the offense. Thus, the penalty for destroying eggs or selling game in close season is not more than £5; for using a swivel gun, not more than £10; and for capturing or selling game without a license, not more than £20. The money obtained from fines is paid in part to rangers, in part to persons instrumental in securing convictions, and in part to registered acclimatization societies. One or more rangers (corresponding to our game wardens) may be appointed for each district by the Governor, and any acclimatization society may become a registered society entitled to all the privileges appertaining thereto, by depositing a copy of its rules in the office of the colonial secretary. It may be interesting to note that fish and game associations are rarely given such official recognition in the United States or Canada; the most notable exceptions being the Delaware Game Protective Association, the Audubon Society of North Carolina, and the Nova Scotia Game and Inland Fishery Protective Society. In these three cases these associations are the official representatives of the state in enforcing the game laws.

(To be concluded.)

Annual Conference of Audubon Societies

The Annual Conference of Audubon Societies will be held in Philadelphia some time during the week beginning November 16, 1903. Due notice of the place and exact time of the meeting will be sent to the secretaries of all the societies by the chairman of the National Committee.

Protection for the Night-hawk in the South

The Night-hawk, or Bullbat, has been so long considered a legitimate target for shotgun practice, in the south, that a report of prosecution for killing these birds at Greensboro, North Carolina, marks the beginning of a new epoch of bird protection in our southern states. Incidentally, we may add, it is evidence of the effective activity of the North Carolina Audubon Society under Professor Pearson's leadership.





1. AMERICAN REDSTART, ADULT MALE.
3. AMERICAN REDSTART. YOUNG MALE.

2. AMERICAN REDSTART, FEMALE
4. PAINTED REDSTART, ADULT.

Bird = Lore

175

A BI-MONTHLY MAGAZINE
DEVOTED TO THE STUDY AND PROTECTION OF BIRDS

OFFICIAL ORGAN OF THE AUDUBON SOCIETIES

Vol. V

NOVEMBER—DECEMBER, 1903

No. 6

An Island Eden

BY FRANK M. CHAPMAN

With photographs from nature by the author



MORTON wrote of New England birds in 1632, of "cranes there are a great store . . . they sometimes eate our corne and doe pay for their presumption well enough . . . a goodly bird in a dishe and no discomodity." Of "swannes," this early natural historian tells us, "there was a great store at the seasons of the year." Other water-fowl there were in countless myriads, and among them were Labrador Ducks, White Pelicans, and, not improbably, Great Auks. Trees fell beneath the weight of roosting Wild Pigeons, which, in flight, darkened the air, and in proper localities Heath Hens, the eastern Prairie Chicken, abounded.

It was not a day when close attention was paid to natural science, and we shall never definitely know the conditions of bird- and mammal-life which existed at the time this country was colonized; but, from records similar to those which Morton and others have left us, we gather that surprising changes have occurred in the character of our bird-life during the past four hundred years. Not only, as we know too well in our own generation, have many species become greatly reduced in numbers, but others have totally disappeared, or are seen only at long intervals as waifs from some region in which they have not as yet become exterminated.

The present-day ornithologist reads the time-discolored pages of these pioneers with the keenest regret that the scenes they describe can never be observed again. Imagine, then, the writer's exultation on discovering that within one hundred miles of our most populous city there is still a considerable area where, if there is not a "greate store of Cranes,"* the existing conditions are so unlike those commonly prevailing throughout the surrounding region that the observer may easily fancy himself transported to the early part of the last century. So marked is the change that he

* Morton wrote of a true Crane of the genus *Grus*; not of our great Blue Heron (*Ardea herodias*), to which the name 'Crane' is often applied.

quickly abandons his dream picture of the past for the astonishing realities of the present.

Only an island could so actively play the part of preserver. No fence, no trespass sign, no warden is so effective as several miles of deep water. Of no less importance, in the present instance, is the possession and occupation of this fair land by but one family, its descendents and dependents, since Lion Gardiner purchased it from its red-skinned owners in 1637, for "ten coats of trading cloath." Here, then, is the prime requisite of isolation rendered potent and continuous by sympathetic guardianship.

Seven miles from end to end, and, in the middle, one-third as broad, Gardiner's Island contains a sufficient acreage to supply more than the needs of its occupants, and large areas are still in a primitive condition. We have, then, the advantages resulting from nature primeval as well as those arising from man's cultivation. The first is represented in shell-strewn beaches, grassy marshes mirrored with ponds and seamed with inflowing arms of the sea, broad, rolling plains, magnificent first-growth woodland now high and dry, now watered by singing brooks, again low and swampy with dense, luxuriant vegetation and green-coated pools. On the other hand, man's presence is made manifest by abundant crops of grains and fruits, of which the birds reap a by no means undeserved share.

With these benefits conferred by man are none of the ills which almost invariably follow him. There are no rats in this island Eden, and, more astounding still, there are no cats,—the ogres of the bird-world. No less remarkable, and, perhaps an accompaniment of insularity, is the absence of foxes, minks, weasels, opossums, red-squirrels and chipmunks, all natural enemies of birds, and when the Fish-hawks come in the spring all other Hawks depart. In short, this island is an ideal resort for the fowl of land and water,—a place of peace and plenty,—and only those factors which impel migration among most of our birds, and consequent exposure to an endless series of dangers, have prevented it from becoming a vast aviary.

Fortunately removed from beaten paths of travel, one cannot buy an 'excursion ticket' to this Island of the Birds, but, journeying part of the way by train, must secure such conveyance as his alighting place affords, to be driven thence over country roads and grassy lanes to a lookout point where one's haven marks the horizon across the waters. Here, at the 'Fire Place,' as it is called locally and on the larger maps of Long Island, one enlists the services of the presiding genius to build for him a fire whose smoke shall give notice of a visitor to the island beyond—an office performed by his great-grandfather before him,—and shortly a dense cloud arises from a smudge of hay and seaweed and is blown landward by the breezes from Montauk. In time comes the answering signal, a flash of light from shining tin gleaming intermittently like the rays of an arc-light, and shortly, through our glasses, we make out a boat crossing the bay.

Without going into detail it is a difficult task to write adequately of the bird-life of Gardiner's Island; but several facts soon impress the student,—first, the abundance of birds; second, the presence of species rare or known only as migrants on contiguous land areas; and, third, the departure of some species from the normal habit of their kind. Robins, for example, build their nests not only in every tree and bush about the place but in exposed positions on the projections of piazza supports, on fence-rails, without attempt at concealment, at the end of corded wood logs, and even on



FISH-HAWK IN TREE NEST

The nest contained two eggs and a newly hatched young. Note the headless fish at the right

Photographed June 2, 1901

stones beneath foot-bridges. How far would they have progressed with housekeeping arrangements if sleek, sometime-purring tabbies were interested spectators of their labors?

Other common dooryard birds are Catbirds, Orioles, Chimney Swifts, Chipping Sparrows and Barn Swallows. Flickers, Quail and English Pheasants all nest within a few yards of the home dwelling, the former finding the box fence-posts admirable substitutes for hollow trees.

Scarce a stone's throw away, colonies of Purple Grackles and Red-winged Blackbirds add their characteristic notes to the chorus of bird voices, the volume of which so impresses the bird student from less favored regions.

In the openings of a near-by tree- and bush-grown pond, if the resident Kingfisher does not give the alarm, a Black Duck with her brood may be seen, and, more rarely, one may catch a glimpse of a radiant Wood Duck floating on the clear brown water. At dusk the whistling of Woodcocks' wings and the momentary sight of the birds rapidly flying to fresh feeding grounds adds another game-bird to the list.

In the grass-grown fields, ready for the mower, and on the rolling plains, where sheep graze, are Meadowlarks, Vesper, Field, Savanna and Grasshopper Sparrows, with Kingbirds and Indigo Buntings in the bordering tree lines.

From every side comes the splendid, vigorous whistle of Bob-white, and often the singer may be seen, perched on the top rail of a fence, replying in kind to a rival occupying a similar position on the other side of the field.

Approaching the borders of the woods, and where thicket growths encroached upon the fields, one was sure to have the always startling experience of flushing an English Pheasant; and in the morning and evening the little, immature, bantam-like crow of cock Pheasants was a distinctly strange and foreign note.

In spite of its abundance, the novelty of this bird's appearance does not wear off. As, with a cackle and a roar of wings, the bird seemed to burst from the earth, I invariably paused to watch the magnificent creature rise, rocket-like, and sail away into cover; nor did one think of moving until it was lost to view. The manner in which a cock Pheasant can conceal himself where there is apparently not sufficient cover for a Sparrow was a never-ending source of wonder. Scarcely less astonishing than the flight of the adult Pheasants is the wing-power of the chicks. When evidently not more than two or three days old, they fly with a speed and certainty of aim which quickly carries them to the near-by shelter. The sitting females were exceedingly wary, leaving the nest with but little cause and returning with much caution. Several hundred Pheasants were released on Gardiner's Island a dozen years ago, where they have so thrived that they are now numbered by thousands.

The woods, in addition to the Vireos, Scarlet Tanagers, Ovenbirds, Wood Thrushes and other common species, held as tenants several Carolina Wrens, a southern species whose loud, ringing, musical whistles added an unexpected bird voice to the chorus of June song. Reaching the regular northern limit of its range in northern New Jersey, this bird is known only as a rare straggler on Long Island; but it appears to have become permanently established on Gardiner's Island, where the conditions have evidently proved favorable to its increase. Its characteristic notes gave form to mental pictures of some southern woods, made still more real by the guttural, lisping gurgle of the Parula Warblers nesting in the long hanging streamers of usnea moss.

In two localities where tall, slender swamp maples grow from low flooded woodlands, several hundred Night Herons build their rude platform nests of sticks high in the branches. As, with frightened squawks, the old birds leave the home tree one might imagine one had invaded a hen-roost. In early June the streaked young are nearly grown, and sit in rows of three



NO TRESPASSING !

Fish-hawk and ground nest. The nest contained three nearly grown young

Photographed July 7, 1902

and four on the limbs near the frail structure in which they were reared, waiting for the impulse which will bid them use their newly grown wings.

But the birds for which, among naturalists at least, Gardiner's Island is famous are the Fish-hawks, or Ospreys. The island furnishes them with a safe retreat to which, year after year, they may return and find their bulky nests undisturbed, awaiting them, while the surrounding waters afford an unfailing supply of food. Among the birds they are the lords of this land.

If their title could be searched, even the early red-skinned islanders would doubtless be found to have been trespassers.

But if the Fish-hawks cannot prevent man's presence, they can and do deny to any other member of the Hawk family the right to share their summer home; and while the Fish-hawks are there one may look in vain for Hawks of other species on Gardiner's Island.

At least two hundred pairs of these fine birds nest on the island; and the variation in the character of their nesting sites effectively illustrates how, under certain conditions, a bird may depart from habit of its kind



TWO YOUNG FISH-HAWKS IN A GROUND NEST WHICH CONTAINED COMPARATIVELY
LITTLE NESTING MATERIAL

Photographed July 7, 1902

without paying the penalty which so often befalls animals with but partially developed instincts.

It is the normal habit of the Fish-hawk to nest in trees, but on Gardiner's Island one finds these birds building their homes not only in trees but actually on the ground. It was interesting to observe, however, that, with one exception, these ground-nests contained fully as much building material as though a tree site had been selected. I say selected, without implying that the bird actually made a choice of position. Rather, it seems to me, these ground-dwelling birds, while inheriting the nest-building instincts of their species, are not instinctively impelled to adopt a site which has proven to be the most desirable for Fish-hawks. On the mainland such variability from the standard would have placed the bird, its eggs or its young within the reach of predaceous mammals, and it

doubtless would not have succeeded in rearing its family. But in an environment where bird enemies are happily absent, the ground-building birds are as safe as those nesting in the tree-tops. Environment, then, is the mold in which habit is cast. Indeed, the ground-builders are in less danger than those birds which build true to type, since the trees to which, year after year, the birds come may fall, with consequent disaster to the nest. When the nest is placed in a small cedar it eventually becomes larger than its support, which often gives way beneath it. The birds then



PHOTOGRAPHING A FISH-HAWK

June 1, 1901

evinced their attachment to a certain spot by constructing a new home in the ruins of the old one.

One pair of Fish-hawks had placed a cart-load of sticks and seaweed, constituting the greater part of their building material, on the roof of a small 'yoke-house' standing well out in a field, which, when I first saw it, was green with young rye. This house was evidently the only place offering concealment from which the bird might be photographed on its home. A camera was therefore erected some forty feet away, a tube run to the house, and I entered what was, in a sense, the subcellar of the structure above, sending my assistant to a neighboring ridge, whence he was to warn me of the bird's return. Time after time, under these conditions, the bird came back within a minute of my companion's departure; but, when going alone to photograph her, in the same manner, on the following day, she showed the utmost caution in returning to her inter-

rupted task of incubation, circling about overhead and whistling loudly for fifteen minutes or more before returning to alight on the nest.

Another bird, near whose ground-nest I had erected a blind, showed a similar inability to count above one. If one of two persons went away, leaving the other in the blind, the bird was apparently satisfied that all was well. If, however, I entered the blind alone, an hour or more would pass before the bird's confidence in the situation was sufficiently restored to permit a return to her young.

This bird's nest was on the beach at the south end of the island, and, while studying her from my blind, I had an excellent opportunity to observe the Terns which were nesting there in numbers. At this time (July 5) the first-born young were several days old, and the little fellows were running about, apparently, wherever they pleased, attended by their parents. Several were seen to enter an inflowing creek, drink repeatedly of the salt-water and swim actively, in evident enjoyment of their natatorial powers, while the parents, who rarely if ever alight on the water, watched them from the shore. Possibly here was an explanation of the value to Terns of webbed toes. Functionless in the adult, they are of service to the young before the power of flight is acquired.

Terns have ceased to nest on the once teeming sand-bars of Long Island, but two good-sized colonies of these beautiful birds inhabit Gardiner's Island, and their presence adds immeasurably to the attractiveness of the beach-life. On the beach I also found the plaintive-voiced Piping Plover, a bird now so rare that in all my wanderings I have never encountered it before. Only ten or twelve of these birds were seen, and search failed to reveal the eggs or young which they gave evidence of possessing. Let us hope this little band of survivors may escape the dangers of the migratory season, and with ever-increasing progeny return each year to the sheltering beaches of Gardiner's Island.



THE SIGNAL AT THE FIRE-PLACE



A GALAPAGOS MOCKINGBIRD ABOUT TO EAT A YELLOW-CROWNED NIGHT HERON'S EGGS. Photographed by R. H. Beck. This picture shows two characteristic traits of the Galapagos Island birds; first, their extreme tameness, and second, the habit of the Mockingbird of destroying other birds' eggs. This picture was taken in thick brush; the camera straddling a deep crack two feet wide in the lava.—R. H. BECK.

The Turkey Vulture and Its Young

BY THOMAS H. JACKSON, West Chester, Pa.

With photographs from nature by the author



HIGH in the air, soaring in graceful curves, often seemingly among the clouds, the Turkey Vulture is an object of beauty surpassing any of our native birds in its grace and majesty of flight. In this part of Pennsylvania it is very abundant during the summer months, and on any clear day numbers of them may be seen, hovering high in the air, making their wonderful evolutions without apparent effort or flapping of wing. Even during the coldest days of winter they are frequently seen, though at such times only as stragglers from the milder climate to the south; for to obtain food here in zero weather, with deep snow covering everything, would seem for them an impossibility.

Beautiful as Turkey Vultures appear when soaring in air, all cause for admiration vanishes at once when we see them on the ground and at close quarters. Still, there is much in their habits and peculiarities to interest the bird student, especially so in connection with their nesting and the rearing of young. Early in April, with the advent of settled weather, they become quite numerous, and at once show an attachment for the old nesting sites, to which they seem to return for many years, if not too frequently disturbed. I have often noticed, when passing near the old nesting places, that the birds watch the intruder very closely and hover near, although no eggs or young are yet in the nest. These nests, or rather nesting places (for they build no nest), in my experience have most frequently been under overhanging rocks, or in caves formed by large rocks. A hollow stump, or a large log from which the center has rotted, is frequently used for a nesting place, and the present season I found a pair that had taken possession of an abandoned pig-sty in the woods, which furnished them an admirable place to set up housekeeping. Unfortunately, the smooth board floor had allowed one of their two eggs to roll away, and only one was hatched. Here they were safe from the attack of foxes, raccoons or other night prowlers that are responsible for so many empty bird-homes.

The period of incubation is very close to thirty days, possibly a day more or less. Many Turkey Vultures' eggs are very handsomely marked with spots and blotches of varying shades of brown, and the temptation to take them for curiosities is hard for many boys to resist; this, together with many other natural enemies, leaves, I am inclined to think, but a small percentage of nests that yield mature birds. The nests, however, seem to be more numerous in this vicinity than formerly, and it is not unusual to find five or six now in a single season.

When hatched, the young Vulture is covered with perfectly white down, excepting the face, sides of the head and the legs below the knees. Over these parts the skin is of a dull leathery black. The eyes are almost black, with a slight tinge of gray.

Young Turkey Vultures at a very early age display more intelligence than the young of any other raptors with which I am familiar. Their eyes are open from the first, and in less than a week they move about in their home, hiss vigorously, and show considerable alertness, but



TURKEY VULTURE, FOUR WEEKS OLD

do not seem to have any fear at that age. At two weeks they show a great increase in size and weight, but otherwise have changed but little in appearance. They now resent being disturbed and snap at the intruder, and as they get older become quite pugnacious, rushing at one with extended wings, uttering continually their loud hissing sound, which comes the nearest to any vocal performance I have ever heard from these birds. Their beaks are quite sharp and capable of injuring an unprotected hand.

On being approached they retire to the farthest corner of their den and there disgorge the contents of the stomach or crop. This seems to be an easy matter with this bird, and by this means I think the young are fed by the parents. None of their food seems to be left about the nest, though as the young become larger the odor of the place becomes very offensive.

At the age of four weeks the young Vultures begin to show signs of

black feathers coming through the down, which has become very long and fluffy. At this age they are very plump and heavy. The color of the eyes and head have not changed perceptibly, but the feet and legs have become rough and covered with whitish scales, as in the adult birds.

Their manner of moving with head close to the ground, their bright



TURKEY VULTURE, FOUR WEEKS OLD

eyes always on the intruder, and head inclined with a vigilant pose, gives them an appearance of great cunning.

By the fifth week (July 25), the greatest change to be noted in the young Vulture under observation was in the increased length of wing and tail feathers, as well as the greater area showing black. This, in sharp contrast to the snowy down still covering the greater part of the body, renders the young Turkey Vulture a very peculiar, if not an attractive object.

My last visit to this nest was on August 9, and I found the young bird well covered with black feathers and almost fully grown. The neck and head were still covered with a thin coating of down, and none of the livid color seen on these parts of the adult bird had made an appearance. At this time it was about seven weeks old, and I should think a week or ten

days more would have elapsed before it would take final leave of its native place, making the period between hatching and flight eight or nine weeks.

This ended a series of visits to this interesting bird, during which a good opportunity was afforded of watching its growth from the egg to maturity, and also of obtaining a number of records with the camera, which, by the way, were secured only under strong protest on the part of the subject.



'NEST' AND EGGS OF TURKEY VULTURE
About one-third natural size

Questions for Bird Students

In beginning a series of 'Questions for Bird Students' in our issue for December, 1902, we announced that they would be continued throughout the year, and that in our issue for December, 1903, we should have an interesting statement to make concerning them.

The questions have covered a wide range of subjects relating to birds, and while it may have been fancied that access to an extensive ornithological library would be needed to reply to them all, the truth is that the answer to every question may be found in BIRD-LORE! At least two of our readers seem to have discovered this fact, and we have received correct replies to the whole thirty-one questions from Ruth Galpin and Frederick J. Stupp.

For Teachers and Students

The Migration of Warblers

FIRST PAPER

Compiled by Professor W. W. Cooke, Chiefly from Data
in the Biological Survey

With drawings by LOUIS AGASSIZ FUERTES and BRUCE HORSFALL

EDITORIAL NOTE

THE series of papers of which this is the first will, we believe, prove one of the most helpful to field students of bird migration which has ever appeared in a periodical. Migrants in the truest sense of the word, most of our Warblers winter in the tropics, and many of them breed in the Canadian zone. Twice a year, therefore, in surprising numbers, they sweep by us journeying northward in the spring, after the weather is comparatively settled, and with, consequently, remarkable regularity; and returning on their "due dates" in the fall in even greater abundance. In short, without the Warblers a study of bird migration in the field would lose half its charm.

It is well known that for many years the Biological Survey in Washington, under the direction of Dr. C. Hart Merriam, has been gathering data in relation to bird migration. Professor Cooke's 'Bird Migration in the Mississippi Valley' is based on data obtained in this manner, and is Bulletin No. 2 of the Survey. A second Bulletin by Professor Cooke on the routes of migration pursued by Warblers will be issued by the Survey during the coming year. In the meantime Professor Cooke has kindly prepared for BIRD-LORE synopses of the migration dates of all the North American species of this family; and, in view of what has just been said, it will be readily understood how much more detailed and valuable this material will be than anything on the subject which has heretofore been published.

Of the Redstart, for example, Professor Cooke writes: "I believe that the enclosed notes on the Redstart include the largest number of records ever accumulated for one species on this continent. The figures given represent 395 records selected from about as many more." With these records for comparison, it is needless to say that one's own observations will become doubly interesting and significant.

In concluding the publication of these papers, we shall print a full list of all the observers whose work is cited, with their stations, enabling one readily to ascertain the authority for given dates.—F. M. C.



1. BLACKBURNIAN WARBLER. ADULT MALE.
3. PROTHONOTARY WARBLER, ADULT MALE.

2. BLACKBURNIAN WARBLER, FEMALE.
4. PROTHONOTARY WARBLER, FEMALE.

AMERICAN REDSTART

SPRING MIGRATION

Atlantic Coast—

PLACE	No. of years' record	Average date of spring arrival	Earliest date of spring arrival
Southern Florida Lighthouses	4	April 12	April 3, 1889
Northern Florida	5	April 7	March 20, 1890
Atlanta, Ga. (near)	7	April 23	April 6, 1894
Raleigh, N. C.	16	April 10	April 2, 1888
Asheville, N. C. (near)	4	April 29	April 19, 1902
Washington, D. C.	12	April 23	April 19, 1891, 1896,
Renova, Pa.	6	May 2	May 1, 1897 [1903]
Beaver, Pa.	4	April 29	April 26, 1889
Berwyn, Pa.	8	May 15	May 6, 1896
Englewood, N. J.	7	May 4	April 26, 1899
Alfred, N. Y.	8	May 14	May 9, 1885
Ballston, N. Y.	11	May 14	May 8, 1894
Portland, Conn.	5	May 6	May 3, 1888
Jewett City, Conn.	15	May 12	May 4, 1896, 1902
Eastern Massachusetts	15	May 6	April 30, 1897, 1900
Randolph, Vt.	8	May 11	May 9, 1890, 1891
St. Johnsbury, Vt.	9	May 13	May 8, 1888, 1902
Durham, N. H.	4	May 12	May 10, 1901
Southwestern Maine	16	May 14	May 6, 1900
Montreal, Que.	8	May 16	May 11, 1887, 1889
Quebec, Que.	13	May 15	May 6, 1902
St. John, N. B.	10	May 20	May 17, 1895
Pictou, N. S.	7	May 27	May 21, 1894
P. E. Island, North River	5	May 26	May 19, 1889

Mississippi Valley—

PLACE	No. of years' record	Average date of spring arrival	Earliest date of spring arrival
New Orleans, La.	4	April 7	April 5, 1902
Southern Texas	5	April 15	April 10, 1886
Helena, Ark.	8	April 13	April 9, 1898
Evbank, Ky.	8	April 16	April 12, 1890
St. Louis, Mo.	4	April 18	April 17, 1888
Onaga, Kans.	7	May 5	May 1, 1892
Brookville, Ind.	7	April 29	April 20, 1896
Waterloo, Ind. (near)	8	April 29	April 27, 1888
Wauseon, Ohio	10	May 1	April 25, 1886
Keokuk, Iowa	10	May 3	April 26, 1896
Iowa City, Iowa	7	May 5	May 3, 1885, 1889
Grinnell, Iowa	6	May 4	May 1, 1887
Chicago, Ill.	14	May 8	May 2, 1896
Rockford, Ill.	7	May 7	May 5, 1886, 1890
Milwaukee, Wis.	6	May 11	May 9, 1897
Locke, Mich.	24	May 7	April 30, 1878
Petersburg, Mich.	9	April 30	April 23, 1885
Livonia, Mich.	6	May 4	May 1, 1892
Southwestern Ontario	10	May 5	May 2, 1890
Listowel, Ont.	12	May 12	May 2, 1896
Ottawa, Ont.	17	May 16	May 3, 1887
Parry Sound District, Ont.	10	May 19	May 13, 1897
Lanesboro, Minn.	7	May 11	May 2, 1887
Aweme, Man.	6	May 13	May 8, 1899
Great Falls, Mont.	3	May 21	May 18, 1889
Columbia Falls, Mont.	3	May 24	May 20, 1895
Fort Simpson, Mont.	2	May 24	May 20, 1860

FALL MIGRATION

Since the Redstart breeds over most of the eastern United States, it is not possible to determine the beginning of its fall migration in that portion of its range from which were received the fullest records of spring arrival. Just south of the breeding range, in the South Atlantic and Gulf states, the dates show that the Redstart is one of the earliest of fall migrants. The earliest migrant in Chester county, South Carolina, was seen July 10; at Key West, Fla., July 22, 1889, and near there, at Sombrero Key lighthouse, July 28 and 29, 1886. It has been taken in Jamaica by August 10; in Costa Rica, August 13; Columbia, South America, September 2, and on the island of Antigua, Lesser Antilles, September 6. These dates are especially interesting because they prove so conclusively that the southernmost breeding birds start first in their migration, and pass at once to the southern portion of the winter range. The date of September 6, at Antigua, is interesting because the Redstart is one of the very few migrant land-birds from the United States that range throughout the West Indies, even to the Windward Islands and Trinidad; and the early date shows that the flights from island to island are interspersed with but few and short intervals of rest.

Fall migration in the Mississippi valley is not quite so early; still the first were seen at New Orleans, La., July 21, 1899, July 29, 1900, and July 30, 1897. The earliest migrants reach central Texas the last of August and have been noted the first of September in Mexico, nearly at the southern limit of the bird's winter range in that country.

The regular tide of migration in southeastern United States sets in early in August, and the striking of the Redstart against the Florida lighthouses has been reported on nineteen nights in that month. The largest flocks pass through the Middle Atlantic states about the middle of September, and the greatest number strike the Florida lighthouses the first half of October.

The species deserts eastern Massachusetts September 20, and southeastern New York the first week in October. The average for eight years of the last one seen at Raleigh, N. C., is October 9; the latest, October 13, 1886 and 1891. Some other late dates are at Asheville, N. C., October 28, 1894; Tarpon Springs, Fla., November 1, and at the Florida lighthouses, October 13, 1885, October 25, 1886, October 17, 1887, and November 4, 1888. The southward migration in southern Florida lasts for more than a hundred days, as compared with barely fifty days in the spring.

The dates west of the Alleghanies are much the same; the last is noted in southern Minnesota about September 20, and central Illinois about the first of October.

The latest dates at New Orleans are October 9, 1894, October 19, 1895, October 16, 1896, and October 27, 1899.

PAINTED REDSTART

I have no notes whatever on the migration of this species and can add to the information given in Mrs. Bailey's 'Handbook' only the statement that it extends its range to Guatemala and Honduras, and is found from 3,000 to 9,000 feet, while the lower districts and the coasts are occupied in the winter by the American Redstart.

BLACKBURNIAN WARBLER

SPRING MIGRATION

Atlantic Coast.—Our only spring record from Florida is April 10, 1902. We have no spring records, outside of the plateau region, from Georgia, South Carolina and North Carolina. The species arrives near Atlanta, Ga., average, April 17; near Asheville, N. C., average, April 14; earliest, April 10, 1893. These are undoubtedly breeding birds, and, consequently, earlier, relatively, than those from the lower grounds east or west.

Additional average records are: White Sulphur Springs, W. Va., April 22, earliest April 17; French Creek, W. Va., April 28, earliest April 23; Lynchburg, Va., May 2; Washington, D. C., May 5; Eastern Pennsylvania, May 5; Sing Sing, N. Y., May 10; Cambridge, Mass., May 12; Southern Maine, May 19, earliest May 8, 1900; New Brunswick, May 21, earliest May 20, 1902; Pictou, N. S., May 30, 1894; Montreal, May 19; Quebec, May 18, 1901.

Mississippi Valley.—New Orleans, La., rare in spring, April 8, 1900, April 8, 1902; Southern Texas, rare, average April 15, earliest April 1, 1890; Central Mississippi, average April 14; Central Kentucky, April 29, 1893, April 29, 1899; St. Louis, Mo., average May 13, earliest May 6; Brookville, Ind., earliest April 15, average early in May; Southwestern Ontario, average May 6, earliest May 3, 1890; Parry Sound District, Ont., average May 11, earliest May 6, 1889; Ottawa, Ont., average May 13, earliest May 8, 1885 and 1896; Lanesboro, Minn., average May 15, earliest May 3, 1888 (this is probably accidental, the next earliest record being May 12, 1891); Carberry, Man., June 3, 1883. The most northern records are Trout Lake and Severn House, Keewatin.

FALL MIGRATION

Atlantic Coast.—Early records are Chester county, S. C., August 8; Bay St. Louis, Miss., August 11, 1898; San José, Costa Rica, August 17, 1890. Northern breeding birds reach Sing Sing, N. Y., August 15. The bulk is passing the southern end of the Alleghanies September 25 to October 5, is present in Costa Rica the first two weeks of October, and early in November is settled in its Peruvian winter home.

Some late records in eastern United States are: Eastern Massachusetts, September 30; Sing Sing, N. Y., October 15 (abnormally late); Washington, D. C.; October 5; Raleigh, N. C., October 8, 1887, October 4, 1888, October 13, 1891; Asheville, N. C., September 15, 1890, September 20, 1894; Chester county, S. C., October 22; Tarpon Springs Fla., October 15, 1886; Key West, Fla., October 21, 1887.

Mississippi Valley.—The last Blackburnian Warblers leave the region of Lake Michigan about the first of October. Late records are: St. Louis, Mo., October 2, 1896; New Orleans, La., October 9, 1896, October 18, 1897 and 1901.

A few birds winter as far north as Yucatan and Orizaba, Mexico, but the bulk winter in Ecuador and Peru, or from central Colombia to central Peru. This species, therefore, spends five months in its winter home in South America, three months in its summer home in Canada, and averages over fifty miles a day travel for the rest of the year.

PROTHONOTARY WARBLER

SPRING MIGRATION

Atlantic Coast.—The earliest record in the United States for this species is Sombrero Key Light, Florida, March 11, 1888; the average in northern Florida is the first week in April, the earliest being Suwanee river, March 22, 1890, and Perdido Lighthouse, March 22, 1885. At Charleston, S. C., eight struck the light April 8, 1902. At Cumberland, Ga., the earliest record is April 10, 1902; on April 15, 1902, this was the most common among the birds that swarmed about the light; it was again abundant the next night. The average at Raleigh, N. C., is April 18.

Mississippi Valley.—At New Orleans, La., the earliest record is March 13, 1888, the average being March 18. Additional records are: Central Mississippi, average April 6, earliest April 3, 1889; Lomita, Texas, March 26, 1880; Matagorda Island, Texas, March 31, 1900; Dallas, Texas, April 8, 1898, April 6, 1899; Manhattan, Kans., April 25, 1891, April 26, 1894, April 26, 1895; St. Louis, Mo., April 18, 1884, April 20, 1885; Wabash county, Illinois, April 19, 1878; Knox county, Indiana, April 18, 1881; Vigo county, Indiana, April 10, 1896; Elkhart county, Indiana, April 27, 1891, and Shiocton, Wis., May 4, 1882.

FALL MIGRATION

The earliest records of fall migration are at Raleigh, N. C., July 14, 1893 and 1894, and at Key West, Fla., July 28, 1888, and August 8, 1889. The earliest records south of the United States are on the coast of southeastern Nicaragua, September 2, 1892, and in Northern Colombia, South America, September 25. The latest date at Raleigh, N. C., is August 26.

and at Omaha, Nebr., August 25 to September 10. The latest Florida record is of a bird that struck the light at Sombrero Key, September 25, 1888, and the latest from New Orleans is September 24, 1893. The only fall record for the West Indies is of one taken at New Providence, Bahamas, August 28, 1898.

The route of the Prothonotary Warbler in fall migration is interesting, because apparently the breeders of the Middle Atlantic states pass southwest to northwestern Florida and then take a seven-hundred-mile flight directly across the Gulf of Mexico to southern Yucatan, instead of crossing to Cuba and thence to Yucatan.



What Bird is This?

Field description.—Length, about 7.00 inches. Above brownish, edged with buffy on back and wings; below much paler, streaked with buffy and grayish; throat white or whitish.

NOTE.—Each number of BIRD-LORE contains a photograph, from specimens in the American Museum of Natural History, of some comparatively little-known bird, or bird in obscure plumage, the name of which will be withheld until the succeeding number of the magazine. It being believed that this method of arousing the student's curiosity will result in impressing the bird's characters on his mind far more strongly than if its name were given with the picture.

The species figured in October is the male Mourning Warbler.

Bird-Lore's Fourth Christmas Bird Census

There is every prospect that BIRD-LORE's Fourth Christmas Bird Census will exceed in interest any of the three that have preceded it. The more northern birds have appeared in unusual numbers, and the cause or causes accountable for their presence may induce the rarest of winter birds to visit us. Already we have had reports of the occurrence of Evening Grosbeaks, and we await their confirmation by other observers.

Reference to the February, 1901, 1902, or 1903, numbers of BIRD-LORE will acquaint one with the nature of the report of the day's hunt which we desire; but to those to whom none of these issues are available we may explain that such reports should be headed by a brief statement of the character of the weather, whether clear, cloudy, raining, etc., whether the ground is bare or snow-covered, the direction and force of the wind, the temperature at the time of starting, the hour of starting and of returning. Then should be given, in the order of the A. O. U. 'Check-List,' a list of the species seen, with exactly, or approximately, the number of *individuals* of each species recorded. A record should read, therefore, as follows:

Yonkers, N. Y., Time 8 A. M. to 12 M. Clear; ground bare; wind west, light; temperature 38°. Herring Gull, 75; etc. Total, — species, — individuals. — JAMES GATES.

These records will be published in the February issue of BIRD-LORE, and it is particularly requested that they be sent the editor (at Englewood, N. J.) not later than December 28.

A Book Exchange

For the convenience of our readers we open BIRD-LORE's pages, when space permits, to announcements of nature books desired or offered for exchange or sale. It is requested that all such announcements be type-written and expressed in form similar to that given below.

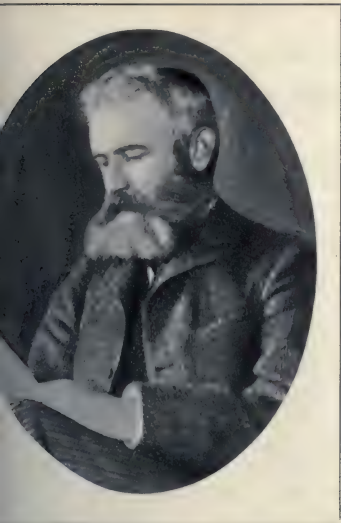
WANTED

Bendire, 'Life-Histories of North American Birds,' Part II. Langille, 'Birds in their Haunts.' Goss, 'Birds of Kansas.'

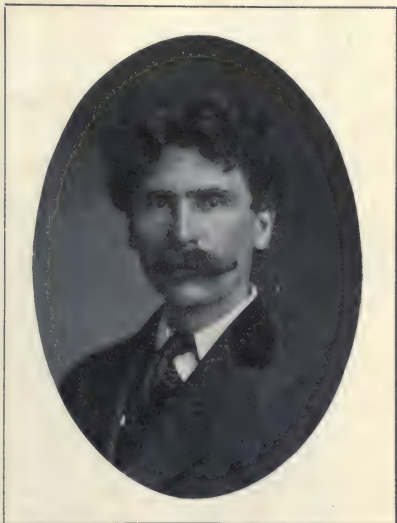
FOR SALE OR EXCHANGE

Bendire, 'Life-Histories of North American Birds,' Part I, Newton, Dictionary of Birds (unabridged edition). Wilson, American Ornithology. Jardine edition, 1839. Coues, 'Key to North American Birds,' 1884 edition.

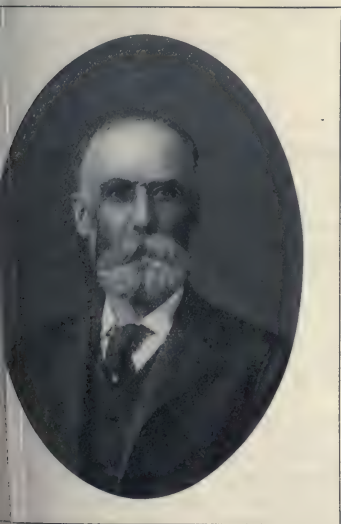
RALPH HOFFMANN, Belmont, Mass.



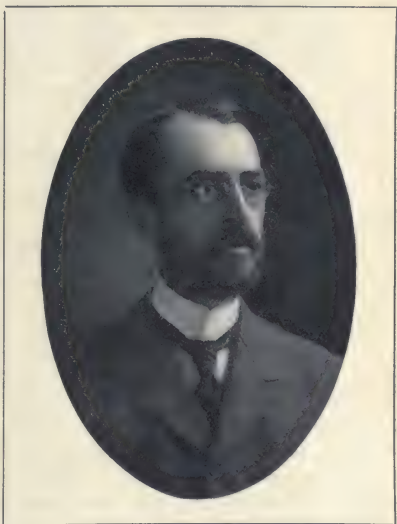
WILLIAM BREWSTER, *Massachusetts*



ERNEST THOMPSON SETON, *Manitoba*



MONTAGUE CHAMBERLAIN, *New Brunswick*



DR. W. H. BERGTOLD, *Colorado*

BIRD-LORE'S ADVISORY COUNCILORS

SEVENTH SERIES

Names and addresses of all the members of the Council will be published in the next issue of BIRD-LORE)

For Young Observers

A Nuthatch's Nest

BY FRANK I. ANTES, Canandaigua, N. Y.



STROLLING through the woods one day early last April, my attention was attracted by a pair of White-breasted Nuthatches which had nesting material in their bills. As I watched them, one of the pair flew to a dead tree and disappeared in a hole about twenty-five or thirty feet from the ground. In a moment the bird reappeared but without the nesting material, and I knew I had found the nest. I resolved on the spot to come two or three times a week and watch the birds at their nesting, but I was unavoidably detained and was not able to visit the nest again for about two weeks; by this time the incubation was well under way, and, although the male Nuthatch did not brood the eggs, he brought food to the female twice during the fifteen minutes that I remained near.

As far as I know, the eggs did not hatch until the 8th of May, when I discovered both birds carrying food into the nest. The female continued to brood them, however, until May 11. By the last week in May they were old enough to climb to the edge of the nest for food, and from that time on I kept close watch of them, expecting almost every day to find that they had gone; but it looked as though they had taken up permanent quarters in that tree. I would go quietly into the woods and level my glass on the nest-hole; all would appear quiet and I would say to myself, "They have gone at last," when one of the parent birds would alight near the nest-hole and instantly up would come five or six hungry mouths ready for food. The day came at length for their departure, but I am sorry to say I was not on hand. Everything was as usual on the 30th of May, but when I visited the nest on June 3, the young had flown and the home in the wood was deserted.

A Prize Offered

BIRD-LORE offers to its Young Observers of fourteen years and under a prize of a book or books, to the value of two dollars, for the best article on winter bird-life. This article must be based on personal observation and tell not only of the birds seen but something of what they were seen to do. It may contain from 400 to 700 words and should be sent to the editor at Englewood, N. J., not later than January 10, 1904.

A Winter Cardinal

BY ROWLAND EVANS, JR. AND ALLEN EVANS, JR.

YOU may be interested to hear of a beautiful Cardinal-bird seen at our place at Haverford, a few miles outside Philadelphia, February 18, 19 and 20, 1903. He would appear on our piazza roof on every one of these mornings to get the seed and bread we threw out for the snowbirds. He would stay under our window for several minutes. He was bigger than a good-sized Robin Redbreast. He was only seen while the snow was on the ground. He was all a bright red, with a black ring round his throat and at the base of his bill. He made a chirpy sound like *tsip*. His bill was a bright red.

We enclose a photograph of him, which we took of him through the window.



The Brown Creeper

BY EARLE STAFFORD (Aged 14 years)

Cloaked in brown is he,
That mite on yonder tree—
His cheerful cry, as he climbs on high,
Comes from the pines to me.
Not once in his busy course stops he,
To talk with Nuthatch or Chickadee,
But continues his searching midst wind and snow,
Till the sharp cold days of winter go;
Then back to the northland—back to his home—
To the range of the bears, where the caribou roam;
And there with his mate—the one he loves best—
Behind some strip of bark they'll build them a nest.
He'll help feed the young birds and keep away thieves,
Till the rich gold of fall comes and warm summer leaves.



A PHOEBE'S NESTS AND YOUNG

Notes from Field and Study

A Phoebe With Three Nests

IN *BIRD-LORE* Vol. III, pp. 85-87, John Burroughs has contributed an article entitled 'A Bewildered Phoebe,' in which he shows that this bird evidently became confused in the selection of a nesting site in an environment to which it was likely unaccustomed. As Mr. Burroughs saw fit to interfere with the bird's labor in completing the five nests, the foundations of which she had begun, the reader can only conjecture as to what the results might have been in this case had she been left undisturbed. I, fortunately, had the opportunity of observing the Phoebe nest under conditions similar to those described by Mr. Burroughs; and, as the birds were left to carry on their work, I thought the results might prove interesting in connection with those given by him.

The site selected for nest-building was upon a horizontal beam over the entrance to a wood-shed. Upon this beam were three pieces of studding, at distances of fifteen inches apart and extending perpendicular to a floor above. At each end of the beam a piece of studding formed an acute angle with the beam, presenting a quite different appearance from those where the three nests were built. It may be seen by the accompanying picture that the three nesting sites are exactly similar. The nest-building was begun May 5, both birds

taking part in the work, and ended May 20. Nests numbers 1 and 2 were completed about the same time and the foundation for number 3 laid. Number 3 was then about three-fourths completed, after which two eggs were laid in number 2; one egg in number 1, and two eggs in number 3, upon which the bird began sitting May 26, and June 10 hatched the two young shown in the picture. June 23, they left the nest.

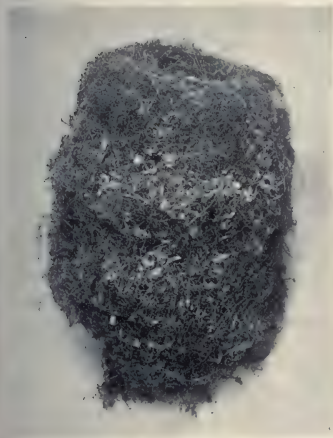
The parent birds are seen about these nests occasionally, but have shown no tendency to build again this season.—A. C. DIKE, *Bristol, Vt.*

Swallow's Nest on Board Boat*

I recently wrote to Captain Harris, formerly of the steamer *Horicon*, on Lake George, New York, inquiring if the Swallows which, in the summer of 1900, nested beneath the guard-rails of his steamer had, in the three succeeding years, nested in similar places. His prompt reply was to the effect that "the Swallows have built their nests under the guard-rails of the various steamers which I have been running [I judge upon Lake George] for the past fifty-five years." The Captain is now retired from duty, but inquired of his son, the pilot of the new steamer *Sagamore*, regarding the habits of the birds in the past two sea-

* IN *BIRD-LORE*, Vol. III, p. 110, Mr. Gates recorded the strange habit of Swallows which built their nests on a steamer and apparently accompanied her on her daily trips of eighty miles.

sons. To this, the Captain further wrote: "My son says that the Swallows were still with him this summer." Thus it would seem that the Swallows of Caldwell, New York, have, for generations, had a nesting habit peculiar to that locality.—BURTON W. GATES, *Worcester, Mass.*



A LARGE PHOEBE'S NEST

A Large Phoebe's Nest

The accompanying photograph shows a Phoebe's nest which was built on the stone wall of a bridge two feet wide and three feet high, under which the water from a small ravine passes. The nest, which was within two feet of the mouth of the bridge, measures ten inches high and six inches wide, and gradually tapers from the center to the bottom.—C. F. STONE, *Branchport, N. Y.*

The Palm Warbler in New Jersey

The Palm Warbler (*Dendroica palmarum*), usually one of our rarest fall migrants, was rather common during the past season in the vicinity of Plainfield, New Jersey. I noted six individuals, four in one flock, on September 22, two on the following day and one on October 4. The Yel-

low Palm Warbler, on the other hand, was scarcer than usual, a single bird met with on October 4 being the only one observed.—W. DEW. MILLER, *Plainfield, N. J.*

The Pine Grosbeak at Englewood, N. J.

It is not often, now-a-days, that I have the pleasure of adding a new name to my list of Englewood birds, and a Pine Grosbeak which visited me October 25 of this year received a correspondingly cordial welcome. The bird's clearly whistled *whee-whee-er*, or *whee-whee-whee*, at once announced the presence of a stranger; and an imitation of the calls met with a quick response, the bird eventually drinking from a pool of water within ten feet of me.

Not only is this the first bird of the species which I have seen at Englewood, but the date of the bird's occurrence is surprisingly early. Dr. L. B. Bishop writes me that three individuals of this species were seen at New Haven, Connecticut, October 30, and other reports from Brattleboro, Vermont, by Mrs. E. B. Davenport, and Monadnock, New Hampshire, by Gerald H. Thayer, indicate an unusual southward movement of Pine Grosbeaks.—FRANK M. CHAPMAN, *Englewood, N. J.*

The Twenty-first Congress of the American Ornithologists' Union

The twenty-first congress of the American Ornithologists' Union was held at the Academy of Natural Sciences in Philadelphia, November 17-19, 1903. The attendance was large, the papers presented were of a high order, and the congress was one of the most successful ever held by the Union.

The election for officers and members resulted as follows: President, Charles B. Cory; vice-presidents, Charles F. Batchelder, E. W. Nelson; secretary, John H. Sage; treasurer, J. Dwight, Jr.; councilors, Frank M. Chapman, Ruthven Deane, William Dutcher, A. K. Fisher, Charles W. Richmond, Thomas S. Roberts, Witmer Stone; corresponding fellows, Dr. Emil A. Goeldi, Para, Brazil; Dr. E. C. Hellmayr, Munich; Dr. Peter Sushkin.

Moscow; Dr. Herluf Winge, Copenhagen; Dr. Samuel W. Woodhouse, Philadelphia; Prof. Dean C. Worcester, Manila, P. I. Members, C. William Beebe, Prof. E. H. Barbour, Benjamin T. Gault, E. H. Forbush, George Spencer Morris, Robert E. Snodgrass, Dr. Reuben M. Strong, Dr. Robert H. Walcott. Ninety-eight associate members were elected.

A list of the papers included in the program is appended: In Memoriam: Thomas McIlwraith, A. K. Fisher, Washington, D. C.; Notes on the Bird Colonies of the California and Oregon Coasts, T. S. Palmer, Washington, D. C.; Nesting Habits of Florida Herons, A. C. Bent, Taunton, Mass.; New Bird Studies in Old Delaware, Samuel N. Rhoads, Audubon, N. J., and Chas. J. Pennock, Kennett Square, Pa.; The Æsthetic Sense in Birds, Henry Oldys, Washington, D. C.; Notes on the Protected Birds on the Maine Coast, with Relation to Certain Economic Questions, A. H. Norton, Westbrook, Me.; Exhibition of Lantern Slides of Young Raptorial Birds, photographed by Thos. H. Jackson, near West Chester, Pa., Witmer Stone, Philadelphia, Pa.; Views of Farallone Bird Life, Frank M. Chapman, New York City; The Bird Rookeries of Cape Sable and the Florida Keys, illustrated with lantern slides, Herbert K. Job, Kent, Conn.; A Winter Trip in Mexico, illustrated with lantern slides, E. W. Nelson, Washington, D. C.; Some Nova Scotia Birds, Spencer Trotter, Swarthmore, Pa.; Nesting Habits of the Whip-poor-will, Mary Mann Miller, Brooklyn, N. Y.; Some Variations among North American Thrushes, J. Dwight, Jr., New York City; The Spring Migration of 1903 at Rochester, N. Y., E. H. Eaton, Rochester, N. Y.; Warbler Migration in the Spring of 1903, W. W. Cooke, Washington, D. C.; Some Birds of Northern Chihuahua, Wm. E. Hughes, Philadelphia, Pa.; A Reply to Recent Strictures on American Biologists, Leonhard Stejneger, Washington, D. C.; The Exaltation of the Subspecies, J. Dwight, Jr., New York City; Variations in the Speed of Migration, W. W. Cooke, Washington,

D. C.; An Ornithological Excursion to the Pacific, Frank M. Chapman, New York City; Bird Life on Laysan Island, illustrated with lantern slides taken by Walter K. Fisher, A. K. Fisher, Washington, D. C.; Ten Days in North Dakota, illustrated with lantern slides, W. L. Baily, Philadelphia, Pa.; Two Neglected Ornithologists—John K. Townsend and William Gambel, Witmer Stone, Philadelphia, Pa.; Bird Life at Cape Charles, Virginia, George Spencer Morris, Philadelphia, Pa.; San Clemente Island and its Birds, Geo. F. Breninger, Phoenix, Arizona; Yosemite Valley Birds, O. Widmann, St. Louis, Mo.; The Origin of Migration, P. A. Tavernier, Chicago, Ill.; Comparison of the Provisional Schemes of the Classification of Birds, R. W. Shufeldt, New York City; A Contribution to the Natural History of the Cuckoo, M. R. Levenson, Brooklyn, N. Y.; Mortality among Young Birds due to Excessive Rains, B. S. Bowdish, New York City. In conjunction with the Audubon Societies: Bird Protection by Agriculturists in Pennsylvania, H. A. Surface, Harrisburg, Pa.; Collecting Permits: Their History, Objects and Restrictions, T. S. Palmer, Washington, D. C.; Report of the Chairman of the Committee on the Protection of North American Birds, Wm. Dutcher, New York City.

A Piazza Bird List

On October 3, 1903, I saw the following birds from the piazza of my home in Summit, New Jersey: A large flock of Golden-crowned Kinglets, Juncos, Chickadees, Tufted Titmouse, Wood Thrushes, a large number of Veeries, a few Hermit Thrushes (I think), six Catbirds, four Brown Thrashers, one Maryland Yellow-throat, two Scarlet Tanagers, a Goldfinch, a Brown Creeper, Robins innumerable, Blue Jays galore, and the inevitable English Sparrow.

Can any other reader of BIRD-LORE beat that record? I was not looking for birds and I did not go off the piazza except to trace and identify one Brown Thrasher.—BERTHA B. WATSON, Summit, N. J.

Book News and Reviews

A HERMIT'S WILD FRIENDS, OR EIGHTEEN YEARS IN THE WOODS. By MASON A. WALTON. Dana Estes & Co., Boston. 12mo. xii + 304 pp., numerous illustrations.

It is one thing to have opportunity, but quite another to take advantage of it. The author of this book, for example, during his eighteen years' residence in the woods, had rare opportunity to learn much of his wild neighbors; but lack of proper scientific training, combined with an ignorance of, or disregard for, the studies of other observers, has made the record he here presents not only a worthless but a positively harmful addition to the list of books on the habits of animals.

The book is filled with unwarranted conclusions. Crows and Chickadees and, finally, all birds from "Eagles down to Hummingbirds," are said to mate for life; but not a shred of evidence is given to support this sweeping assertion. Crows were seen to "talk" to a Hawk in a "low tone," and "it was evident that they were telling him that his loud screams would bring all the hunters of Cape Ann to the spot"!

The sex of birds which differ neither in size nor plumage is determined in some unexplained way without question, and individual birds are recognized year after year without evident consideration of the possibility of error. Nevertheless, for a Cowbird to know one of its own kind without instruction is considered a "miracle." Consequently it is essential, according to our author, that the young Cowbird be tutored by "its own mother" (that is, the bird that laid the egg from which it was hatched). The manner of reasoning pursued in reaching this conclusion, and, indeed, throughout the book, is well illustrated by the incident of the Cowbird and Yellow Warblers (pages 211-216). A Cowbird was seen to "flutter" on to the nest of a pair of Yellow Warblers and "add her parasite egg" to the two Yellow Warbler eggs already in the nest. The Yellow Warblers on return-

ing discussed the matter, and it was decided that the female lay no more eggs, since, it is stated, they "intelligently understood that they must sacrifice their first brood in order to raise a second brood unmolested."

"After the egg was laid" it was *thought* that the female Cowbird "visited the nest several times a day," but the statement that "her frequent visits had accustomed the young birds to her presence" is made without the qualifying "think." The two young Yellow Warblers were crowded out of the nest at the age of one day by the young Cowbird when he was two days old, but whether the act was seen or inferred is not stated. "One day," some time after the young Cowbird had left the nest, the female Yellowbird was missed, and "after a long search," was found "engaged in building a new nest." The young Cowbird was now "looked up" and found under the care of the male Yellow Warbler, assisted by "the old Cowbird," and several days later the Warbler deserted his charge to return and help his mate with her second brood.

After these observations the question is asked, "Why do young Cowbirds lay eggs in other birds' nests, instead of building nests for themselves?" and it is answered in the following remarkable paragraph: "When the Cowbird was out of the shell it was big and black. It was my first young Cowbird, and I thought it was a male. I made it a male in my note-book. While the bird was on the nest I fastened a bit of copper wire to its leg, and the next spring, when it returned, I found that the bird was a female. I saw her with another female, I think it was the mother, visiting birds' nests. So the young Cowbird was educated to lay its eggs in other birds' nests. Nest-building is educational and not instinctive."

Further quotations would only furnish additional illustrations of the author's assumption and dogmatism. Indeed, we should not consider the book at this length were it not to protest against the publication

of what Mrs. Wright has well called this literature of the "Long Bow" ('The Critic,' April, 1903).

Unfortunately, members of this school take themselves seriously and evidently believe that their crude observations and absurd deductions are as worthy of consideration as those of the trained naturalist and animal psychologist. Experience shows that we cannot look to the publishers for protection from the growing flood of books of this kind, and we can only hope that, in time, the interested public will have acquired enough first-hand information from personal observation to detect and reject these *unnatural* histories of animal life.

As a more tangible evidence of carelessness on the part of the publishers of the present volume, we would call their attention to the fact that the "Pigeon Hawk" facing page 68 is a Sharp-shinned Hawk; that the "Belted Kingfisher" on page 109 is not that species, but apparently the European bird; that a cut of *Fulica* is made to illustrate text relating to *Oidemia*; that the "Chickadee" on page 173 is the Mountain Chickadee, a species of the western United States, and that the Blue-winged Warbler on page 211 should have no place in the book at all.—F. M. C.

BIRDS OF LAYSAN AND THE LEEWARD ISLANDS, HAWAIIAN GROUP. By WALTER K. FISHER. Pages 1-39, plates i-x of the U. S. Fish Commission Bulletin for 1903.

It is a long time since BIRD-LORE has received a more interesting publication than this record of Mr. Fisher's studies on Laysan and the neighboring islands, which he visited on the U. S. Fish Commission steamer Albatross between May and August, 1902.

Thoroughly prepared to make the most of the unusual opportunities afforded a naturalist in these densely inhabited bird islands, Mr. Fisher evidently used his eyes, pen, and camera to the best advantage, and gives us a series of exceptionally valuable observations and photographs. Although his time on Laysan was limited, birds were found to be so abundant and so tame that no difficulty was experienced in securing a

set of pictures admirably illustrating general conditions of the island bird-life and characteristic habits of its birds.

Incidentally it is stated that the widely published photograph showing car-loads of eggs of the Laysan Albatross was made to order by a photographer who gathered the eggs for the purpose of taking "a spectacular picture"; an explanation which allays our fears for the present safety of Laysan birds, and explodes more or less indefinite stories concerning the "dried albumen," etc., for which it was said these eggs were shipped in vast quantities to Honolulu! So easy is it, in the lack of exact information, for false ideas to take root and flourish.

Space forbids quotation from this valuable contribution to the study of island bird-life, but we can commend it to our readers as an unusually interesting recountal of a naturalist's experience in one of the most remarkable of known bird islands.—F. M. C.

The Ornithological Magazines

THE AUK.—The October 'Auk' opens with one of William Brewster's pleasant sketches, this time recording the discovery of a nest of the Philadelphia Vireo. Hitherto only one nest and no authentic eggs have been preserved, and, as Mr. Brewster was the first, years ago, to make known the life-history of this rare little bird, it is peculiarly appropriate that the discovery of a nest should finally fall to his lot. A half-tone of the nest and eggs is shown. 'A Contribution to the Life-History of the Herring Gull ***' by William Dutcher and W. B. Bailly, who visited a large colony on the Maine coast, proves that even a common species still affords opportunities for discoveries of habits and traits in its home-life. The accompanying half-tones are well chosen.

Robert E. Snodgrass is following a comparatively unbeaten path in 'Notes on the Anatomy of *Geospiza*, *Coccyzus* and *Certhidia*,' birds of the Galapagos Islands, his paper being illustrated by original drawings. A harvest awaits the reaper in the field of avian anatomy. The birds of another mid-ocean island, Laysan, were found at home and ridiculously tame by W. K. Fisher,

whose camera gives us an insight into their daily doings. Isolation has hitherto protected the few species of land-birds and many sea-birds found on Laysan, but now that man has a foothold on the island, there may be work cut out for the Audubon Societies in the near future.

Three letters of Audubon are brought to light by S. N. Rhoads. The Black-winged Tanager of South America is discussed by A. H. Clark, and a new species of Night-hawk from the Bahamas, *Chordeiles virginianus vicinus*, is named by J. H. Riley.

Reviews, notes, etc., together with index and list of members, complete the number. The current volume, containing 480 pages, is the largest ever offered to the readers of 'The Auk,' with the one exception of 1886. —J. D., Jr.

THE CONDOR. — The September number of 'The Condor' contains four main articles. The first, entitled 'With the Mearns Quail in Southwestern Texas,' by Fuertes, is illustrated with three text figures and a striking frontispiece showing the different positions assumed by the bird's crest. Notwithstanding the conspicuous plumage of this quail, it is shown that the peculiar markings are in some measure, at least, protective, when considered in connection with the bird's habit and habitat. "The very contrasts which look so conspicuous when seen in the hand, isolated from the sharp lights and shadows of the natural environment, serve to so 'cut up' the creature that in nature all semblance of a bird is lost."

Under the heading 'Some Observations on the Nesting Habits of the Prairie Falcon,' Cohen gives a summary of his notes on *Falco mexicanus* in the San Francisco Bay region, where the bird is now very rare. 'Bird Life on the Farallone Islands,' by Kaeding, is the first published account of the visit made to the Islands by the A. O. U. party in June, 1903. The paper is illustrated with six half-tones, and concludes with a list of seventeen species of birds observed. Illustrations and descriptions, however, no matter how elaborate, give but little idea of the real conditions existing on this wonderful bird colony. It must be seen to be fully appreciated, and, as the author

truthfully says, "a trip to the Farallones is a liberal education." The first installment of 'A List of the Birds Observed in Cochise county, Arizona,' from November 1, 1894, to June 1, 1895, is contributed by Osgood.

WILSON BULLETIN. — Number 44 of 'The Wilson Bulletin' contains four communications of interest. The opening one, by Mrs. Elizabeth B. Davenport, relates to the 'Birds Observed on Mt. Mansfield [Vermont] and the West End of Stowe Valley at the base of the Mountains, in the Summer of 1902.' The titles of the three other papers are as follows: 'A Nest of the Western Horned Owl,' by E. R. Warren; 'Winter Birds of Central Park, New York City,' by C. H. Rogers; and 'The Terns of the Weepecket Islands, Massachusetts,' by Lynds Jones.

With the exception of four days, Mrs. Davenport devoted a considerable part of the time between June 6 and July 31 to collecting data for her paper, and was fortunate enough to secure notes on seventy-four species of birds, all of which, with the exception of the Spotted Sandpiper, were land-birds.

Charles H. Rogers has given a summary of his observations covering three seasons, on the winter birds of Central Park. The thirty-three species noted are divided into 'Winter Visitors,' 'Permanent Residents,' 'Occasional Stragglers from the Country,' and winter birds that have been observed, but not during the winter months. In 1881 Dr. E. A. Mearns published a series of articles in the New York 'Observer,' giving an annotated list of the birds found in the park, which, if we remember correctly, include observations on the winter visitors. It might be instructive to compare the two lists, which were prepared twenty-five years apart. Lynds Jones gives an interesting paper covering his observations made during the past summer among the Common Terns and Roseate Terns on the Weepecket Islands. He had a good opportunity to study these birds on their nesting grounds, and was able to gather some valuable information concerning their life histories. —A. K. F.

Bird-Lore

A Bi-monthly Magazine

Devoted to the Study and Protection of Birds
OFFICIAL ORGAN OF THE AUDUBON SOCIETIES

Edited by FRANK M. CHAPMAN

Published by THE MACMILLAN COMPANY

Vol. V Published December 1, 1903 No. 6

SUBSCRIPTION RATES

Price in the United States, Canada and Mexico twenty cents a number, one dollar a year, postage paid.

Subscriptions may be sent to the Publishers, at Harrisburg, Pennsylvania, or 66 Fifth avenue, New York City.

Price in all countries in the International Postal Union, twenty-five cents a number, one dollar and a quarter a year, postage paid.

COPYRIGHTED, 1903, BY FRANK M. CHAPMAN

Bird-Lore's Motto:

A Bird in the Bush is Worth Two in the Hand

EVER since the establishment of BIRD-LORE it has been our desire to present our readers with accurately colored illustrations of birds, which would not only be attractive in themselves but would also be of assistance in identifying birds in nature. Various methods of color printing have been investigated, but those that were desirable were too expensive, while those that were cheap were painfully unsatisfactory.

Recent developments in reproductive processes, however, have made it possible for us to gratify our ambition, and BIRD-LORE celebrates the completion of its fifth year by publishing the first plates of a series designed to illustrate the Warblers of North America in color, from drawings by Louis Agassiz Fournes and Bruce Horsfall.

In these illustrations especial attention will be paid to the plumage of the female and young (when they differ from that of the adult male), a plan which we are sure will meet with the approval of the many bird students who have been puzzled by birds in immature dress.

Of the value of the text, by Professor Cooke, which will accompany these plates, we have spoken on another page. Later it is proposed to publish in book-form full biographical matter concerning the songs, nests and eggs, and general habits of Warblers, and in carrying out this plan we

most earnestly request the coöperation of BIRD-LORE's readers.

The day has long passed when one man can write a life-history of even a single bird which will adequately reflect our knowledge of it. The migration dates presented by Professor Cooke in this issue admirably illustrate the necessity for many observers if we are properly to comprehend the subject of bird migration; and in every other phase of the study of bird-life there is need for a great number of independent observations.

BIRD-LORE's editor, therefore, will appear not as the author, but as the editor of the projected volume on North American Warblers, and he sincerely hopes that during the coming season bird students throughout the country will pay especial attention to the habits of these birds, and will contribute the results of their work to this proposed joint production of American ornithologists. A plan for study will be announced in a later number.

With this issue of BIRD-LORE Mr. Dutcher joins Mrs. Wright in editing the Audubon Department. Mrs. Wright will continue her helpful and suggestive editorials on various phases of educational and protective bird work, and Mr. Dutcher will contribute news of the activities of the National Committee and continue in BIRD-LORE his useful series of Educational Leaflets.

To make room for this additional material, BIRD-LORE will be permanently enlarged.

Other features for the coming year will be announced in due season, but we already have enough material on hand to assure our readers a volume of exceptional interest and value.

As we go to press we learn with much pleasure that Mrs. Florence Merriam Bailey's 'Handbook of Birds of the Western United States' has already reached its second edition.

It is also good news to hear that the long-delayed revised edition of Coues' Key will be published in December. In our next issue, therefore, we shall present the promised reproductions of proof pages of the 1872 edition of this classic work.

The Audubon Societies

*"You cannot with a scalpel find the poet's soul,
Nor yet the wild bird's song."*

Edited by MRS. MABEL OSGOOD WRIGHT and WILLIAM DUTCHER

Communications relating to the work of the Audubon and other Bird Protective Societies should be addressed to Mrs. Wright, at Fairfield, Conn. Reports, etc., designed for this department should be sent at least one month prior to the date of publication.

DIRECTORY OF STATE AUDUBON SOCIETIES

With names and addresses of their Secretaries

California.....	MRS. GEORGE S. GAY, Redlands.
Colorado.....	MRS. MARTHA A. SHUTE, Denver.
Connecticut.....	MRS. WILLIAM BROWN GLOVER, Fairfield.
Delaware.....	MRS. WM. S. HILLES, Delaware Place, Wilmington.
District of Columbia.....	MRS. JOHN DEWHURST PATTEN, 2212 R street, Washington.
Florida.....	MRS. I. VANDERPOOL, Maitland.
Georgia.....	PROFESSOR H. N. STARNES, of Experiment.
Illinois.....	MISS MARY DRUMMOND, 208 West street, Wheaton.
Indiana.....	W. W. WOOLEN, Indianapolis.
Iowa.....	MRS. L. E. FELT, Keokuk.
Kentucky.....	MISS JULIET O. ALVES, Henderson.
Louisiana.....	MISS ANITA PRING, 1449 Arabella St. New Orleans.
Maine.....	MRS. C. B. TUTTLE, Fairfield.
Maryland.....	MISS ANNE WESTON WHITNEY, 715 St. Paul street, Baltimore.
Massachusetts.....	MISS HARRIET E. RICHARDS, care Boston Society of Natural History, Boston.
Minnesota.....	MISS SARAH L. PUTNAM, 229 8th ave., S. E., Minneapolis.
Missouri.....	AUGUST REESE, 2516 North Fourteenth street, St. Louis.
Nebraska.....	MISS JOY HIGGINS, 544 South 30th street, Omaha.
New Hampshire.....	MRS. F. W. BATCHELDER, Manchester.
New Jersey.....	MISS JULIA SCRIBNER, 510 E. Front street, Plainfield, N. J.
New York.....	MISS EMMA H. LOCKWOOD, 243 West Seventy-fifth street, New York City.
North Carolina.....	T. GILBERT PEARSON, Greensboro.
Ohio.....	MRS. D. Z. MCCLELLAND, 820 West Ninth street, Cincinnati.
Oklahoma.....	MRS. ADELIA HOLCOMB, Enid.
Oregon.....	MISS GERTRUDE METCALFE, 634 Williams ave., Portland.
Pennsylvania.....	MRS. EDWARD ROBINS, 114 South Twenty-first street, Philadelphia.
Rhode Island.....	MARTHA R. CLARKE, 89 Brown street, Providence.
South Carolina.....	MISS S. A. SMYTH, Legare street, Charleston.
Tennessee.....	MRS. C. C. CONNER, Ripley.
Vermont.....	MRS. FLETCHER K. BARROWS, Brattleboro.
Virginia.....	MRS. J. C. PLANT, Glencarlyn.
Wisconsin.....	MRS. REUBEN G. THWAITES, 260 Langdon street, Madison.
Wyoming.....	MRS. N. R. DAVIS, Cheyenne.

Meditations on the Posting of Bird Laws

Those of us who live in states having fairly satisfactory laws for bird protection are wont to ponder every fall as to whether it will ever be possible to have them satisfactorily enacted. Not only are the game-wardens few and far between and the constables curiously near-sighted, but otherwise conservative citizens frequently maintain that to prosecute offenders too vigorously is both impolitic and inexpedient, as very many of the violators are wholly unaware of the existence of the statutes, or, if

they are vaguely aware that there is some sort of prohibition, think that it applies only to visibly private grounds,—they do not understand that it is a state fiat. Certain it is that while the more intelligent class of the Community are usually cognizant of the laws, it is even for them no easy matter to keep abreast of the various changes that are likely to follow each legislative session, while to the newly arrived foreign element unable to read English who, together with cats, are the birds' worst enemies, how can we expect them to give heed to that they have never heard? The first step is to render each community thoroughly informed.

Of course, ignorance of the law is held to be no excuse for breaking it, but this is one of many cases of legal injustice. Various societies have tried posting the game-laws broadcast on trees, fences and in country stores, usually printed in English, occasionally in Italian, the most frequent result being that in a few weeks they are either torn down or overshadowed by the latest poster advertising a county fair or a political rally. I am fully convinced that individual effort in this matter will do much more than indiscriminate posting.

Here in Connecticut we now have a law constituting every man his own constable where trespass on his land is concerned, thus rendering practical the ancient law against general trespass, which was perforce a dead letter. All states do not have this law, but equal results could be attained, as far as bird protection is concerned, if every owner of either a garden plot or an extensive farm alike would not only keep their grounds thoroughly posted on the roadside inside of the fence, where to remove the poster would be a trespass in itself, but also scatter the posters through remoter parts of wood lots and private lanes, where they would be seen by those avoiding highway publicity. Then, after this is done, offenders may be brought justly to justice. I am convinced that if half a dozen land-owners in every community would do this, a chain could be formed that would soon bind an entire state.

An Audubon Society may print a thousand or two copies of the game-laws on stout muslin and see that they are distributed and tacked up along highways, but if they are pulled down almost immediately they have merely their labor for their pains. If, however, individuals could have these posters on application and take personal interest in their preservation and renewal, the result would be very different. Also, it has been recently suggested by one high in authority, as well as in the knowledge of bird protection, that it may be sometimes possible to persuade a general contractor or section foreman of a railroad to read and emphasize the bird-laws to the gangs of foreigners they employ. Given a poster printed in

scholastic Italian, how much does it mean to those accustomed to a local patois, and when the unfamiliar names of our birds are added, what can Giaomo of the railway ditch make of the thing?

A few days ago an intelligent woman who has traveled much said to me: "I know that the Italian and Slavs seem lawless and kill birds indiscriminately, but for this we are responsible, not they. In the first place, they are not thoroughly informed, and, in the second, to get out to the woods for amusement is one of the few cheap pleasures this country offers foreigners who come from lands where, if bread is scarcer, amusement is more plentiful. We must teach them, and do it tactfully, for I have this season seen almost a race-riot started by the arrest of an alien for taking shore-birds' eggs from nests in a sand-barren, when the whole outraged attitude of the man showed that he was unconscious of wrongdoing."

Truly it is not enough to make the laws, or to enforce them. The illiterate foreign public are our charge for instruction in this, as in the matter of general education; and, while we are sending out free libraries to interest school children in the birds themselves, it would be well—since posters are often forbidden in school buildings—to send to each school teacher who circulates a library a pocket copy of the Bird Laws, with a request to read the same intelligently to her class. In our winter meditations and heart-felt dreams of what we will do for bird protection "when the nesting season opens," let us remember that for the protectionist there is no closed season when he has to thresh out the problem of informing the stranger within his country's gates.—M. O. W.

Reports of Societies

Report of the Audubon Society of the District of Columbia for 1903

This society was organized for the study and protection of birds. Under the heading of study, the work accomplished has been, through lectures, meetings for members, held monthly, field meetings, and classes for the instruction of teachers, conducted by

different ornithologists, members of this society, for which no charge is made. Fifty or sixty teachers comprise the members of these classes. Illustrations are given by means of two hundred bird-skins owned by the society. These are also available for use in private schools and for lectures.

Classes for popular instruction were held through April and May, and created great enthusiasm, especially the outdoor classes, realizing for the treasury a neat little sum. Field meetings were held through April and May for members and their friends, each personally conducted by two or more trained ornithologists. Leading, as they did, through the beautiful woods, so easy of access around Washington, to which was added one water excursion, these meetings are said to be the crowning pleasure of the year's work.

For the protection of birds there has been examination of millinery stores by officers of the society; coöperation with the Audubon Society of the state of Virginia to secure enactment of adequate laws for that state; coöperation with the game-wardens of Montgomery county, Maryland, copies of our game-laws being sent to all wardens in the county. Occasional examinations of markets and commission houses have revealed no flagrant violation of game-laws, no song-birds offered for sale.

Protection has been given to two breeding colonies of Night Herons near the eastern branch of the Potomac. The existence of breeding colonies so near the city of Washington is of great interest.

All sale of Grebes and "Water Witches" in the markets has been effectively stopped. The sale of live native birds has been reduced to a minimum, and the trapping of song-birds near the city has been practically stopped.

The laws for the protection of birds and game have been generally well observed.

The society numbers about three hundred members, and some of its officers have been told that "more good is accomplished with less money expenditure than would ever have been thought possible." — JEANIE MAURY PATTEN, *Secretary*.

Report of the Audubon Society of Vermont for 1903

The year 1903 has brought much encouragement to those interested in Audubon work in Vermont. Membership has not increased rapidly, but sustained effort has been made to create a public sentiment which will secure to our agricultural interests the protection of bird-life, and to encourage among all our people that interest in living birds which makes for the enlargement and enrichment of life from the esthetic side.

We have had the hearty coöperation of our state superintendent of education, Mr. Walter E. Ranger, who has furnished us with much valuable printed matter, published under his direction, by the State Board. He has also invited members of our society to present methods of bird study at the summer schools for teachers, held under state authority. We have endeavored to avail ourselves of these opportunities, and find a lively interest in the subject among all the teachers with whom we have been able to communicate. Nature work in its largest sense—man's true relation to the world about him—is the growing idea underlying the work of our educators. We now have Audubon members among the instructors in two of our State Normal Schools, which insures aid to those soon to be enrolled among the teachers of the state.

The subject of bird protection by the farmer, not legal protection, but such individual protection as can result only from an intelligent comprehension of the economic value of birds to our agricultural interests, was ably presented by Amos J. Eaton at the Dairymen's Meeting held under the auspices of our State Board of Agriculture. No topic discussed awakened keener interest. We hope to extend this feature of our work through the granges of the state.

A lantern and slides would be of material help, but our finances will not admit of purchase at present. Mr. Eaton had only the Massachusetts charts for illustration.

We have added another circulating library during the year. These books reach the homes through the children. Parents become interested in the topics which absorb

their children, and our children thus have a definite field of usefulness all their own. They are an irresistible missionary host storming the citadel of indifference among their elders. And somewhere among this little band lie the scattered forces which must move on the world's best work before many years are added to the past. Hundreds of pamphlets and leaflets have been distributed through our state.

We wish that every Audubon member could be encouraged to read BIRD-LORE. This is the only means by which one can be fully informed of the progress of the work in general, and the only means by which a thorough union in spirit and effort can be attained. We are also under an individual obligation to sustain our accredited organ.

The same responsibility rests upon us in our corporate capacity toward the interests of the National Committee. We feel there should be a liberal use of the leaflets published by our national secretary, and such subscriptions be made to the fund as may be necessary for the development of the work. —ELIZABETH B. DAVENPORT, *Corresponding Secretary*; STELLA M. BARROWS, *State Secretary*.

Annual Conference of Audubon Societies

The third Annual Conference of Audubon Societies, through the National Committee of Audubon Societies, was held at the residence of Mrs. Edward Robins, secretary of the Pennsylvania Audubon Society, 114 South Twenty-first street, Philadelphia, on the evening of November 18, 1903.

The following societies were represented by the delegates, whose names are given below: Connecticut, Mrs. William Brown Glover; Delaware, Mr. A. D. Poole; District of Columbia, Dr. T. S. Palmer; Florida, Mrs. Kingsmill Marrs; Georgia, Dr. Eugene Murphy; Massachusetts, Miss Harriet E. Richards; New Jersey, Miss Julia Scribner; New York, Mr. Frank M. Chapman; North Carolina, Professor T. Gilbert Pearson; Oregon, Mr. William R. Lord; Pennsylvania, Mr. Witmer Stone; Vermont, Mrs. E. B. Davenport; Virginia, Dr. T. S. Palmer.

Mr. Dutcher, who was unanimously re-elected to the office of chairman, presented an outline report of his year's work, which will later be printed in full and distributed to the societies. He stated that \$3,915 had been expended under the Thayer Fund, and \$575 under the special fund contributed by the Audubon Societies for clerical assistance. Among noteworthy contributions was a naphtha launch given by the Florida Audubon Society and now in active service among the Florida Keys.

The A. O. U. model law has been passed in nine additional states, new Audubon Societies have been started in Colorado and Georgia, and weaker societies have been assisted. Over one hundred thousand educational leaflets have been distributed, and the demand was for many more; thousands of letters have been answered, an exceedingly important agreement has been entered into with the Millinery Merchants' Protective Association, and steps have been taken to secure protection for birds in the Philippines and other American islands in the Pacific.

A sufficient sum was at once subscribed to ensure a continuance of clerical assistance and it was said that there was every reason to believe that the Thayer Fund would reach or even exceed the sum contributed last year.

The work for the coming year will include renewed efforts to secure the passage of the A. O. U. law in states which have not effective bird-laws, an extension of the warden system, publication of additional educational leaflets, and systematic attempts to encourage bird study in the schools.

To supply the urgent need of lantern slides, it is hoped that bird photographers throughout the country will contribute duplicate negatives to the National Committee, which will act as a central distributing bureau of the slides made from them.

The chairman of the committee was authorized to appoint a sub-committee to assist him in preparing an exhibit of Audubon Society material for the St. Louis Exposition. This exhibit is designed to include specimens of the literature and bird charts issued by the societies, a map showing the states which have Audubon Societies, enlarged photographs of protected bird colonies, etc.

NATIONAL COMMITTEE OF AUDUBON SOCIETIES

EDUCATIONAL LEAFLET, NO. 6



Drawn from life by Charles R. Knight

PASSENGER or WILD PIGEON

(Length, 15-17 inches)

Order—*Columbæ*

Genus—*Ectopistes*

Family—*Columbidæ*

Species—*Ectopistes migratorius*

The Passenger or Wild Pigeon

BY WILLIAM DUTCHER

Chairman, Protection Committee of the American Ornithologists' Union

DESCRIPTION

Distinguishing Characters.—Size large, length 15 to 17 inches; tail long and pointed length, 8.50 inches; resembling in general appearance the Mourning or Carolina Dove but much larger, and flight said not to be accompanied by a whistling sound.

Adult Male.—Upper parts bluish slate color, middle of the back browner; sides of the head bluish slate-color of the same shade as the crown, chin somewhat paler; *no black mark behind the ears*; wing-coverts slaty-blue like the rump, the tertials and their coverts browner and with black spots; primaries blackish and externally margined with *brownish*, central pair of tail-feathers blackish, *all the others white or pearly white* at end half becoming grayer toward the base, where they are marked with black and often chestnut underparts rich brownish pink, becoming white on the lower abdomen and under tail-coverts; chin, upper throat and sides of the throat bluish slate-color, sides of the neck like breast but with iridescent reflections spreading to the hindneck; bill black, feet reddish.

Adult Female.—Differs from the male in having the middle of the back, crown and wings brownish (*the rump, however, remaining bluish slate*), more black marks in the wings, the chin much whiter, the underparts paler, brownish with little or no pinkish tinge, the iridescence at the side of the neck less pronounced, the central pair of tail-feathers browner, the others somewhat grayer.

Young.—Young birds of both sexes resemble in plumage the adult female, but the feathers of the crown, foreback, sides of the breast and sides of the neck, the wing-coverts and tertials are tipped with whitish or brownish, the primaries are broadly edged and tipped with rusty brown, the outer tail-feathers are grayer.

Remarks.—The only other member of the order Columbæ for which the Passenger Pigeon could be mistaken is the Mourning or Carolina Dove. The Pigeon, however, is much larger, the adult male is much pinker below, and in both sexes of the Pigeon the rump is bluish slate instead of brownish as in the Dove, while the Pigeon's outer tail-feathers are broadly tipped with white and the Dove's more narrowly with gray. Furthermore, the small, black mark present behind the ear in the Dove is wanting in the Pigeon (see Educational Leaflet No. 2, The Mourning Dove).

Alexander Wilson, the "Father of American Ornithology," estimated that a flock of Wild Pigeons seen by him near Frankfort, Kentucky, about 1808, contained at least 2,230,272,000 individuals. Audubon writes that in 1805 he saw schooners at the wharves in New York City loaded in bulk with Wild Pigeons, caught up the Hudson river, which were sold at one cent each.

The late George N. Lawrence tells of the great flights of Pigeons that annually passed over New York City as late as 1850. He says, "We could see flocks consisting of from twenty-five to over a hundred Pigeons come sweeping down over the tree tops seemingly at a speed of 75 miles an hour. The flocks followed each other in quick succession. On the present sight of General Grant's tomb was an old country-seat known as 'Claremont.' From the top of this house, during one of these great flights of Pigeons,

the owner killed a hundred or more in one morning. The writer, during the past forty years, has studied the birds of the vicinity of New York, and in all that period has seen only one live Wild Pigeon. The writer's father, who lived at Tarrytown, N. Y., in his boyhood, has often told of the enormous flocks of Pigeons he saw there, so great that in passing overhead the sun was darkened as by a rain-cloud and the noise of their wings was like thunder.

Today the Wild Pigeon is so rare that the observation of a single individual is considered noteworthy.

The species continued abundant until about 1860, when, as a result of increasing slaughter for food, it began rapidly to diminish in numbers, and no large flock has been recorded since 1888. Frank M. Chapman tells me that as late as July, 1881, he saw Wild Pigeons used in large numbers at a trap-shooting tournament held near New York City. The birds had been netted in the West and were often so helpless from their confinement in foul cages that they were unable to fly. William Brewster writes that in 1876 or 1877 there was a Pigeon-nesting near Petosky, Michigan, which was twenty-eight miles long and averaged four miles in width. The disappearance of so abundant a creature in so comparatively short time is a surprising illustration of man's power in the animal world, when, for any reason, his forces are directed toward a certain end.

Wild Pigeons lived in flocks at all seasons, nesting, roosting and feeding in enormous bodies. Wilson mentions a nesting colony which was several miles in breadth and upwards of forty miles in extent! The birds chose preferably beech woods, and as many as ninety nests have been counted in a single tree. The flock previously mentioned, estimated to contain over two billion individuals, stretched from horizon to horizon, as far as the eye could reach in every direction, and was four hours in passing a given point. At all seasons, whether migrating, roosting or nesting, Pigeons were subject to attack by man. Their migrations were governed largely by the food supply, acorns and beech-nuts constituting their chief fare, and when they appeared at a certain place their destruction became the object of the day. Many were shot, but by far the larger number were netted with the aid of live decoys. Wilson tells of thirty dozen birds being captured at one spring of the net. Audubon states that he knew a man who, in Pennsylvania, netted 500 dozen Pigeons in one day.

When roosting, Pigeons were attacked by men armed with guns, poles, clubs, and even pots of sulphur, and wagon-loads of birds were killed nightly. Similar methods of destruction were employed when the birds were nesting. At this season the squabs were especially desired, and the trees were shaken or felled to obtain them. When the wants of the hunters had been supplied, droves of hogs were released beneath the nesting trees to feed on the birds remaining. At one of the last large known Pig-

eon 'nestings,' near Petosky, Michigan, in 1878, it is estimated that one billion birds were killed during the season.

This, in brief, is the story of the destruction of the Wild Pigeon, whose remarkably rapid extermination is paralleled only by that of the American bison. During the period of its abundance the Wild Pigeon was distributed throughout the greater part of eastern North America, from the Hudson Bay region southward to Florida, and casually westward to British Columbia. Today an occasional individual is observed at intervals in the Atlantic States, and in the middle and upper Mississippi Valley they are seen more frequently. Reports of their presence in large numbers on the Pacific coast or in various parts of the tropics prove to be based on other species of Pigeons.

STUDY POINTS FOR TEACHERS AND STUDENTS

What are the special characters of the Wild Pigeon? How does the male differ from the female? How do the young differ from the adults? In what respect does the Pigeon differ from the Mourning Dove? How many Pigeons were estimated by Wilson to be contained in one flock? How long a time was the flock in passing a given point? What is the estimated flight speed of the Pigeon? At what price does Audubon mention seeing Pigeons sold in New York City in 1805? How were these birds shipped? Where were they caught? What area was occupied by a Pigeon roost observed by Wilson? How many nests have been observed in a single tree? What governed the migrations of Pigeons? What was their principal food? When did wild Pigeons begin noticeably to decrease in numbers? What were the causes? When and where was the last known large Pigeon roost? What was the former range of the species? What is its present range? What conclusion may we draw from the history of the Pigeon's extinction?

Much information in regard to the Passenger Pigeon will be found in the works of Wilson, Audubon and Nuttall, in Baird, Brewer and Ridgway's 'History of North American Birds,' Bendire's 'Life Histories of North American Birds,' Brewster's 'The Present Status of the Wild Pigeon (*Ectopistes migratorius*) as a Bird of the United States, with Some Notes of its Habits,' The Auk, VI, 1889, pp. 285-291.

Additional copies of this leaflet may be obtained from William Dutcher, Chairman National Committee of Audubon Societies, 525 Manhattan Ave., New York City.

P
Biol
A

Audubon Magazine
" "
Bird-Lore

CANCELLED

AN ILLUSTRATED BI-MONTHLY MAGAZINE DEVOTED TO
THE STUDY AND PROTECTION OF BIRDS

EDITED BY
FRANK M. CHAPMAN

Official Organ of the Audubon Societies

AUDUBON DEPARTMENT EDITED BY
MABEL OSGOOD WRIGHT

AND
WILLIAM DUTCHER

VOLUME VI—1904

562046
23.4 53

THE MACMILLAN COMPANY
HARRISBURG, PA., AND NEW YORK CITY

128102

COPYRIGHT, 1904

By FRANK M. CHAPMAN

INDEX TO ARTICLES IN VOLUME VI BY AUTHORS

- Abbott, Clinton C., Christmas Census, 12.
 Abraham, Henry W., Christmas Census, 16.
 Ainsworth, Sarah F., Christmas Census, 14.
 Ames, G. M., A Pair of Wood Pewees, 168.
 Antes, Frank T., Two Years for an Oriole's Nest, 134.
 Archer, John, and Albert H. Wright, Christmas Census, 11.
 Arnold, Clarence M., Christmas Census, 10.
 Austin, J. Harold, Christmas Census, 14.
 Bailey, Florence Merriam, A Swallow and Flycatcher Feud, 68.
 Bailey, Wm. L., Christmas Census, 13.
 Barker, Samuel H., Christmas Census, 13.
 Barnwell, C. L., Another Tame Vireo, 168.
 Baynes, Ernest Harold, Christmas Census, 10.
 Beebe, R. H., Photographs by, 60, 96, 121.
 Beull, E. F., Christmas Census, 15.
 Bickford, Mr. and Mrs. E. L., Christmas Census, 17.
 Bildersee, Isaac, Christmas Census, 12; Notes on the Nesting of Lawrence's Warbler, 131; Bird Notes from the Vicinity of New York City, 1904, 167; The European Skylark near New York City, 204.
 Blain, Alexander W., Jr., Christmas Census, 16.
 Blake, Francis G., and Maurice C., Christmas Census, 9.
 Blanchard, George G., Christmas Census, 8.
 Bowen, Mrs. Carroll E., A Winter Mockingbird, 67.
 Brennan, Chas. F., Christmas Census, 15.
 Bruen, Frank, R. W. Ford, F. H. Holme, Newton Manross and Egbert Smith, Christmas Census, 11.
 Brodhead, S. B., A Venturesome Titmouse, 205.
 Butler, Charlotte W., Christmas Census, 10.
 Carter, Norman McLeod, Christmas Census, 11.
 Caskey, R. C., Pine Grosbeaks in New Jersey, 98.
 Chapman, F. M., Reviews by, 27, 30, 69, 70, 135, 136, 169, 170, 171, 206, 207; Editorials by, 32, 72, 103, 138, 172, 209; The Warbler Book, 61; Climatic Variation in Color and Size of Song Sparrows, 164; Young Flamingos, 193.
 Chapman, Frank M., and Ernest Thompson Seton. The Black Tern at Home, 1.
 Christensen, Abby W., Christmas Census, 10.
 Christy, Bayard H., and Norman McClintock, The Herring Gull on Lake Superior, 86.
 Clark, Josiah, A Plea for Bird Boxes, 66.
 Cobb, Anna E., Christmas Census, 10.
 Cobbs, Stanley, Christmas Census, 10.
 Codman, J. S., Christmas Census, 9.
 Comey, Arthur C., Christmas Census, 9.
 Cooke, W. W., The Migration of Warblers, 21, 57, 91, 130, 162, 199.
 Crosby, Clifford, Christmas Census, 15.
 Crosby, Maunsell S., Christmas Census, 11.
 Dana, Elizabeth, A Lesson, 184.
 Dean, R. H., Christmas Census, 15.
 Dike, A. C., Christmas Census, 8.
 Drummond, Mary, Secretary, Report of Illinois Society, 176.
 Dutcher, Wm., Editorials by, 34, 74, 105, 140, 174; The Snowy Heron, 37; The Marsh Hawk, 77; The Red-shouldered Hawk, 109; The American Sparrow Hawk, 143; The Screech Owl, 177; The Short-eared Owl, 217.
 Dwight, Jonathan, Jr., Reviews by, 70, 101, 171, 207.
 Evans, William B., Christmas Census, 12.
 Fair, Wm. W., Christmas Census, 13.
 Fisher, A. K., Reviews by, 31, 102, 137, 208.
 Ford, R. W. See Bruen, Frank.
 Goodwin, S. H., Christmas Census, 17.
 Gorman, Vincent E., Notes on the Birds of February and March, 1902, 64.
 Gorman, Vincent E., and Fred T. Morrison, Christmas Census, 12.
 Graves, Edward W., Christmas Census, 15.
 Griggs, Robert F., Photographs by, 125, 127.
 Grinnell, Elizabeth, A Large Phoebe's Nest, 68.
 Hales, Henry, An Unusual Nest of the Cliff Swallow, 67; Cowbird and White-eyed Vireo, 99; Mockingbirds in New Jersey, 134.
 Hankinson, T. L., Photograph by, 148.
 Harman, Wm. Gray, Christmas Census, 14.
 Harper, Francis, Christmas Census, 11.

- Harvey, Gertrude Fay, A Visit to the Lake Erie Terns, 122.
- Herrick, Francis H., Red-eyed Vireos, Awake and Asleep, 113.
- Hill, J. Irving, Christmas Census, 10.
- Hix, George E., Christmas Census, 12.
- Hodge, C. T., A Summer with the Blue-birds, 41.
- Horton, Frances B., Purple Martins in Vermont, 167.
- Horton, L. S., Photographs by, 18, 129.
- Horton, William C., Christmas Census, 8.
- Howe, Carlton D., A Tame Ruffed Grouse, 82.
- Holme, F. H. See Bruen, Frank.
- Hunt, Chreswell J., Christmas Census, 13; Goldfinch and Tree Sparrow—Difference in Feeding, 133.
- Hunt, Richard M., Tree Swallows in a Bird-box, 93.
- Jackson, Thomas H., Christmas Census, 13.
- Jacob, L. M., and A. A. Mickle, Christmas Census, 12.
- James, Francis A. P., Christmas Census, 9.
- Johnson, Roswell H., Christmas Census, 17.
- Johnson, Susan M., Christmas Census, 15.
- King, Hervey W., Christmas Census, 8.
- Larkin, Harry Hubbard, Christmas Census, 8.
- Lee, Charlotte E., Christmas Census, 11.
- Lemmon, Isabella McC., A Blue Jay Household, 89; A Strenuous Screech Owl, 133.
- Lewis, Elta M., Christmas Census, 8.
- Lewis, Evan, The Nesting Habits of the White-tailed Ptarmigan in Colorado, 117; Photograph by, 161.
- Manross, Newton. See Bruen, Frank.
- Marshall, H. Herbert, Christmas Census, 10.
- McClintock, Norman. See Christy, Bayard H.
- McColm, G. E., Photograph by, 56.
- McConnell, Harry B., Christmas Census, 16.
- McDaniel, Eugene L., Christmas Census, 14.
- Metcalf, Zeno and C. L., Christmas Census, 16.
- Mickle, A. A. See Jacob, L. M.
- Miller, Richard F., Christmas Census, 13.
- Miller, W. De W., Reviews by, 100, 102, 136.
- Morison, Fred T. See Gorman, Vincent E.
- Morse, Susan M., King Cole; A Biography, 155.
- Norman, Charles, Christmas Census, 15.
- Olmstead, Rett E., Christmas Census, 17; The Whip-poor-will, 54.
- Packard, W. H., and C. S. Van Deusen, Christmas Census, 16.
- Palmer, Samuel C., Taming a Red-eyed Vireo, 133.
- Palmer, T. S., Reviews by, 31, 70, 101, 136, 207; Bird Protection Abroad, 36, 139.
- Park, J. T., Christmas Census, 14.
- Patton, Jeanie Maury, Secretary, Report of, 212.
- Peake, Elmore Elliott, A Sensible Cardinal, 205; Taming a Robin, 205.
- Pepoon, H. S., Christmas Census, 16.
- Porter, Harold E., BIRD-LORE'S Fifth Christmas Bird Census, 202; and see Rogers, Charles H.
- Prime, Rev. Wendell, Bird-Life of a Swiss City, 191.
- Princehorn, A. L., Photograph by, 192.
- Pring, Anita, Our 'Bobs,' 166.
- Roe, Mrs. F. W., Some Familiar Florida Birds, 185.
- Rogers, Charles H., Christmas Census, 12.
- Rogers, Charles H., and Harold E. Porter, Christmas Census, 12.
- Roosevelt, Theodore, Letters from, 147.
- Saunders, A. A., Christmas Census, 11.
- Saunders, Thomas. See Smith, Wilbur.
- Scorgie, Helen C., and Elvira L., Christmas Census, 9.
- Seebold, J. E., Photograph by, 165.
- Seeman, Ernest, Christmas Census, 14; Balancing Robins, 204.
- Seton, Ernest Thompson, How to Study a Bird, 181.
- Seton, Ernest Thompson, and Frank M. Chapman, The Black Tern at Home, 1.
- Severson, Henry P., Christmas Census, 16.
- Sherwood, George H., Report of the Circulating Collections Loaned by the American Museum of Natural History to the Public Schools of New York City, Dec. 1, 1903, to July 1, 1904, 201.
- Sim, E. F. and Robert J., Christmas Census, 16.
- Smith, Egbert. See Bruen, Frank.
- Smith, Wilbur, and Thomas Saunders, Christmas Census, 11.
- Squires, Karl B., Christmas Census, 11.
- Stafford, Earle, October Bird Music, 153.
- Stehman, Jacob, Christmas Census, 13.
- Stone, Witmer, Reviews by, 71, 102, 137.
- Street, Fletcher J., Christmas Census, 12.
- Stupp, F. J., Christmas Census, 11.
- Tabor, E. G., Photographs by, 53, 157; A Woodcock at Home, 149.
- Thayer, Gerald H., A Massachusetts Duck Hawk Aery, 47; A Morning's Bird-List, 97.
- Thompson, Caroline B., Christmas Census, 14.

- Thomson, Harriet W., Christmas Census, 16.
 Trafton, Gilbert H., Christmas Census, 12.
 Turner, Orren W., Notes on Winter Birds, 25.
 Van Deusen, C. S. See Packard, W. H.
 Van Name, Williard G., Public Sentiment and Bird Protection, 76.
 Vredenburgh, Abbie, Purple Martins in Illinois, 99.
 Warren, E. R., Horned Larks in Colorado Springs, Col., 6.
 Way, W. Scott, Secretary, Report of, 214.
 Williamson, Addison, A Thieving Chebec, 134.
 Wilson, Burtis H., Christmas Census, 15.
 Wright, Albert H. See Archer, John.
 Wright, Horace W., Christmas Census, 9.
 Wright, M. O., Editorials by, 33, 73, 104, 173, 211.

INDEX TO CONTENTS

- Allen's 'The Birds of New Hampshire,' reviewed, 169.
 Audubon Calendar, The, mentioned, 208.
 Audubon Societies, Directory of State, 211.
 Audubon Societies, Reports of, 176, 212, 214.
 Auk, The, reviewed, 70, 101, 171, 207.
 Baldpate, 14.
 Bartsch's 'Notes on the Herons of the District of Columbia,' reviewed, 170.
 Bird Boxes, 66, 172.
 Bird Census, BIRD-LORE's Christmas, mentioned, 202; summary of, 203.
 Bird Life, A Station for the Study of, 166.
 BIRD-LORE, Prospectus for 1905, 210.
 Bird Protection, 33, 74, 76, 140, 173, 174; abroad, 36, 99, 105, 139.
 Birds, How to Study, 181; The Lodging and Feeding of, 211.
 Bittern, American, 17; Least, 168.
 Blackbird, Bicolored, 17; Brewer, 17; European, 191; Red-winged, 10, 13, 14, 16, 17, 98, 154; Rusty, 154.
 Bluebird, 10, 11, 12, 13, 14, 16, 41; figured, 42, 43, 44, 45, 98; Chestnut-backed, 15; Western, 17.
 Bobolink, 98.
 Bob-white, 9, 11, 13, 16, 25, 97; Florida, 189.
 Bruner, Walcott and Swenk's 'A Preliminary Review of the Birds of Nebraska,' reviewed, 207.
 Bryan's 'A Monograph of Marcus Island,' reviewed, 169.
 Buffle-head, 9.
 Bulletin of the Michigan Ornithological Club, reviewed, 71, 102, 137.
 Bunting, Lark, 14; Painted, 188; Reed, 192.
 Burroughs' 'The Literary Treatment of Nature,' mentioned, 172.
 Bush-tit, California, 17.
 Buzzard, Turkey, 13, 14, 15, 194.
 By the Wayside, mentioned, 99.
 Canada, 30.
 Cardinal, 12, 13, 14, 15, 16, 205; Florida, 185, 186, 187; figured, 186; Gray-tailed, 14.
 Cassinia, reviewed, 69.
 Catbird, 8, 12, 13, 98.
 Cedarbird, 11, 14, 16, 98, 205.
 Census, Christmas Bird, 8.
 Chaffinch, 191.
 Chat, Long-tailed, 23; Yellow-breasted, 23, 98; figured, facing 1.
 Chickadee, Black-capped, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 98, 154; Carolina, 13, 14, 15; Mountain, 17; Oregon, 17.
 Circulating Collections, Report of, 201.
 Climatic Variation in Song Sparrows, 164.
 Colorado, 6, 117.
 Condor, The, reviewed, 31, 70, 101, 136, 207.
 Cook's 'Some New Facts about the Migration of Birds,' reviewed, 206.
 Cotes' 'Key to North American Birds,' reviewed, 27.
 Council, BIRD-LORE's Advisory, 19.
 Cowbird, 98, 99.
 Creeper, Brown, 8, 9, 10, 11, 12, 13, 15, 16, 17; Rocky Mountain, 14.
 Crossbill, American, 9, 98, 154; White-winged, 9, 98.
 Crow, American, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 98, 155; figured, 56, 157; Fish, 13, 98, 167.
 Cuckoo, Black-billed, 97; Yellow-billed, 97.
 Curlew, Long-billed, 168.
 Dawson's 'Birds of Ohio,' reviewed, 69.
 Destruction of Birds, 138.
 District of Columbia, 212.
 Dove, Ground, 14; Mourning, 14, 16, 97, 168.
 Dresser's 'The Eggs of the Birds of Europe,' mentioned, 171.
 Duck, 12, 14, 15, 17; Black, 9, 10, 11; Scaup, 9, 11, 13; Wood, 52.

- Eagle, Bald, 13.
 Egret, American, 103.
 Emu, The, reviewed, 102.
- Farmers, Relation of Birds to, 72.
 Finch, House, 17; Purple, 9, 13, 15, 16, 98, 154.
 Flamingo, American, 138, 193, 209; figured, 193, 194, 195, 196, 197, 198.
 Flicker, 9, 10, 11, 13, 14, 16, 47, 50, 52, 97, 187; Red-shafted, 14, 17.
 Florida, 103.
 Flycatcher, Crested, 98; Green-crested, 167; Least, 98, 134; Yellow-bellied, 168.
 Forbush's 'The Destruction of Birds by the Elements in 1903-04,' mentioned, 137.
- Golden-eye, American, 8, 9, 10, 11.
 Goldfinch, American, 8, 9, 10, 11, 12, 13, 14, 15, 17, 98, 133, 154; Green-backed, 17.
 Grackle, Boat-tailed, 14; Bronzed, 9, 14, 15; Purple, 12, 13, 14, 98.
 Grebe, 11; Holboell's, 8; Horned, 9, 11; Pied-billed, 14, 52.
 Greenfinch, 191.
 Grosbeak, Evening, 16, 17; Pine, 8, 9, 10, 11, 12, 14, 15, 17, 98, 154; Rose-breasted, 98; Western evening, 17.
 Grouse, Ruffed, 8, 10, 11, 16, 17, 47, 52, 81; figured, 82, 84, 85.
 Gull, Great Black-backed, 8, 9, 10, 12, 13; Herring, 8, 9, 10, 11, 12, 13, 16, 86, 168; figured, 87, 88; Ring-billed, 13, 16.
- Hawk, Broad-winged, 14, 168; Cooper's, 12, 13, 16, 168; Duck, 47, 168; Marsh, 10, 13, 15, 17, 78; figured, 77; Pigeon, 10, 168; Red-shouldered, 15, 110; figured, 109; Red-tailed, 10, 11, 12, 13, 14, 15, 16, 17; Sharp-shinned, 9, 13, 14, 16; Sparrow, 9, 10, 13, 14, 15, 16, 144; figured, 143; Western Red-tailed, 17.
 Heron, Great Blue, 14, 204; Snowy, 38, 103; figured, 37.
 Hoffmann's 'A Guide to the Birds of New England and Eastern New York,' reviewed, 100.
 Hornady's 'The American Natural History,' reviewed, 135.
 Hummingbird, Anna's 17; Ruby-throated, 14, 98.
- Illinois, 99.
 Indigo-bird, 98, 204.
- Jacobs' 'The Haunts of the Golden-winged Warbler,' reviewed, 206.
 Japan, 139.
 Jay, Blue, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 47, 50, 52, 89; California, 17;
- Florida Blue, 185, 186, 187; figured, 185; Piñon, 17; Rocky Mountain, figured, 161; Texan, 14.
 Jones' 'The Birds of Ohio,' reviewed, 30.
 Journal of the Maine Ornithological Society, reviewed, 71, 102.
 Judd's 'Birds of a Maryland Farm,' reviewed, 30.
 Junco, Intermediate, 17; Oregon, 17; Pink-sided, 7; Slate-colored, 8, 9, 10, 11, 12, 13, 14, 15, 16; Thurber's, 17.
- Kentucky, 168.
 Kermond's 'Catalogue of British Columbia Birds,' reviewed, 206.
 Killdeer, 13, 14, 17.
 Kingbird, 98.
 Kingfisher, Belted, 14, 17, 47, 52.
 Kinglet, Golden-crowned, 8, 9, 10, 11, 12, 13, 14, 15, 16, 154; Ruby-crowned, 13, 15, 17, 154.
 Kohlmeiser, 191.
 Kumlien and Hollister's 'The Birds of Wisconsin,' reviewed, 30.
- Lark, Desert Horned, 6; figured, 6, 7; Horned, 6, 9, 13, 15; Pallid Horned, 14, 17; Prairie Horned, 15, 16.
 Leucosticte, Gray-crowned, 7.
 Loon, 8, 11; Red-throated, 8.
 Louisiana, 166.
- Macoun's 'Catalogue of Canadian Birds,' reviewed, 30.
 Magpie, 17.
 Maine, 168.
 Mallard, 14.
 Manitoba, 1.
 Martin, Purple, 99, 167.
 Maryland, 30.
 Massachusetts, 8, 9, 10, 63, 93, 133.
 Meadowlark, 9, 10, 11, 12, 13, 14, 15, 98, 204; Western, 14, 17.
 Merganser, American, 2, 9, 10, 11, 13; Red-breasted, 10, 14.
 Michigan, 86.
 Miller's 'With the Birds in Maine,' reviewed, 69.
 Mockingbird, 8, 13, 14, 15, 67, 134, 166, 185, 186; Western, 14.
 Montana, 30.
- Nature Books, editorial on, 32.
 New Hampshire, 8, 97.
 New Jersey, 64, 98, 99, 133, 134, 168.
 New York, 98, 131, 134, 167.
 New Zealand, 36.
 Nighthawk, 52, 98; figured, 165.
 North Carolina, 25.
 Nuthatch, Red-breasted, 8, 10, 12, 13, 14, 16; Slender-billed, 17; White-breasted, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 98.

- Ohio, 30, 122.
 Old Squaw, 8, 9, 11, 16.
 Ontario, 8.
 Oriole, Baltimore, 14, 98, 134; Orchard, 98.
 Our Animal Friends, mentioned, 137.
 Ovenbird, 14, 98.
 Owl, Barred, 16; Dusky Horned, 17; Elf, 101; Great Horned, 15, 16, 17; Long-eared, figured, 18; Screech, 13, 15, 133, 178; figured, 177; Short-eared, 17, 218; figured, 217; Snowy, 10.
 Paroquet, Carolina, 103.
 Partridge, Scaled, 14.
 Pearson, Prof. T. Gilbert, mentioned, 210.
 Pennsylvania, 133.
 Pewee, Wood, 168; figured, 129.
 Phalarope, Wilson's, 1.
 Pheasant, 11; Mongolian, 9.
 Phoebe, 14, 98; Black, 17, 68; Say's, 17, 68.
 Pipit, American, 17, 168.
 Ptarmigan, White-tailed, 117; figured, 118, 119, 120.
 Rail, Sora, 168; Virginia, figured, 53.
 Raven, American, 17.
 Redpoll, 8, 10, 11, 16, 17; Greater, 8, 10.
 Redstart, American, 98.
 Red-tail, Western, 17.
 Red-wing, San Diego, 17.
 Reed's 'North American Birds' Eggs,' reviewed, 135.
 Richards' and Cummings' 'Baby Pathfinder to the Birds,' reviewed, 100, 170.
 Robin, American, 9, 10, 11, 12, 13, 14, 52, 98, 204, 205; Western, 15, 17.
 Sandpiper, Solitary, figured, 148; Spotted, 204; figured, 96.
 Sapsucker, Yellow-bellied, 11, 15, 16.
 Scoter, American, 9.
 Scoter, White-winged, 8.
 Scott's 'Reports of the Princeton University Expedition to Patagonia, 1896-1899,' Vol. II. Ornithology, Part I, reviewed, 169; 'The Inheritance of Song in Passerine Birds,' reviewed, 171.
 Seton's 'Two Little Savages,' reviewed, 30.
 Shrike, 15; California, 17; Loggerhead, 14, 15; Northern, 9, 11, 12, 13; White-rumped, 14, 17.
 Shoveler, 11.
 Silloway's 'The Birds of Fergus County, Montana,' reviewed, 30.
 Siskin, Pine, 10, 98.
 Skylark, European, 204.
 Snipe, Wilson, 14.
 Snodgrass and Heller's 'Papers from the Hopkins-Stanford Galapagos Expedition, 1898-1899, XVI, Birds,' reviewed, 169.
 Snowflake, 11, 16.
 Sparrow, Aleutian Song, 165; figured, 164; Black-throated, 14; Chipping, 25, 98, 204; Desert Song, 165; figured, 164; English, 15, 26, 204; Field, 13, 14, 98; Fox, 9, 10, 13, 14, 154; Gambel's White-crowned, 14, 17; Golden-crowned, 17; Grasshopper, 98, 204; Lincoln's, 98, 167; Merrill Song, 17; Mexican Song, 165; figured, 164; Mountain Song, 14; Samuel's Song, 17; Sooty Song, 165; figured, 164; Song, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 98, 153, 164, 204; figured, 164; Swamp, 10; Tree, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 133, 153; Vesper, 14, 98, 204; Western Vesper, 14; White-crowned, 14, 168; White-throated, 8, 9, 12, 13, 14, 25, 154.
 Starling, 12, 204.
 Stone, Witmer, mentioned, 210.
 Swallow, Barn, 68, 98, 204; Cliff, 67, 98; Rough-winged, 98, 168; Tree, 93; figured, 94.
 Swarth's 'Birds of the Huachuca Mountains, Arizona,' reviewed, 169.
 Swift, Chimney, 98, 204; figured, 121.
 Tanager, Scarlet, 98.
 Teal, Blue-winged, 1, 14; Green-winged, 14.
 Tern, Black, 1; figured, 2, 3, 4, 5; Common, 122; figured, 125; Least, 141.
 Thrasher, Brown, 13, 14, 25, 98, 188; figured, 190.
 Thrush, Dwarf Hermit, 17; Gray-cheeked, 98, 168; Hermit, 9, 12, 13, 153; Olive-backed, 98; Varied, 17; Wilson's, 98; Wood, 98.
 Titmouse, Black-crested, 14; Plain, 17; Tufted, 12, 13, 14, 15, 16, 168, 205.
 Todd's 'The Birds of Erie and Presque Isle, Erie County, Pennsylvania,' reviewed, 169.
 Towhee, 11, 13, 14, 25, 98; Californian, 17; Spurred, 17.
 Trees, Protection of, 73.
 Vermont, 8, 81, 167.
 Vireo, Red-eyed, 98, 113, 133, 168; figured, 114, 115; Warbling, 98; White-eyed, 98, 99; Yellow-throated, 98.
 Vulture, Black, 14; Turkey, 13, 14, 15, 194.
 Warbler, Audubon's, 14, 17; Bay-breasted, 98, 162, 168; figured, facing 147; Black and White, 98; Blackburnian, 98; Black-throated Blue, 98; Black-throated Gray, 130; figured, facing 113; Black-throated Green, 57, 98; figured, facing 58; Blue-winged, 91, 98, 138; figured, facing 81; Book, The, mentioned, 61; Brewster's, figured, facing 81; Canadian, 59, 98; figured, facing 41; Cape May, 98; Chestnut-sided, 98, 163; figured, facing 147; Golden-cheeked, 58; fig-

Warblers, continued —

ured, facing 58; Golden-winged, 92, 98, 168; figured, facing 81; Grace's, 130; figured, facing 113; Hermit, 199; figured, facing 181; Hooded, 22, 98; figured, facing 1; Kentucky, 168; Kirtland's, 199; figured, facing 200; Lawrence's, 131, 138, 168; figured, facing 81; Magnolia, 98, 200; figured, facing 200; Mourning, 168; Myrtle, 9, 10, 11, 14, 98; Nashville, 98, 168; Palm, 14; Parula, 14, 98; Pileolated, 58; Pine, 21; figured, facing 22; Plates, mentioned, 209; Prairie, 98; Red-faced, 24; figured, facing 22; Sycamore, 130; Townsend's, 199; figured, facing 181; Wilson's, 58, 98; figured, facing 41; Yellow, 134, 98; Yellow-throated, 130; figured, facing 113.

Walker's 'Our Birds and their Nestlings,' reviewed, 170.

Walter's 'Wild Birds in City Parks,' mentioned, 137.

Water-Thrush, Grinnell's, 14; Louisiana, 98; Northern, 98.

Waxwing, Bohemian, 17; Cedar, 11, 14, 16, 98, 205.

Weed's 'Bird Life Stories,' reviewed, 136.

Wheelock's 'Birds of California,' reviewed, 69.

Whip-poor-will, 54; figured, 55.

Wilson Bulletin, reviewed, 31, 102, 137, 208.

Winter Birds, 25.

Wisconsin, 30.

Woodcock, American, 149; figured, 150, 151, 152.

Woodpecker, Batchelder's, 17; Californian, 17; Downy, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 97; figured, 192; Golden-fronted, 14; Hairy, 9, 10, 11, 12, 13, 14, 15, 16, 17, 98; Pileated, 8, 16; Red-bellied, 14, 15, 16, 187; figured, 188, 189; Red-headed, 15, 16, 25, 168; Texan, 14.

Wren, Baird's, 14; Carolina, 11, 12, 13, 14, 15, 16, 168; House, 14, 66, 98; Long-billed Marsh, 98; Winter, 10, 12, 13, 14.

Yellowhammer, 192.

Yellow-throat, Maryland, 98.



Bird-Lore

To _____

WITH A VERY

Merry Christmas

I SEND YOU

Bird-Lore for 1904

[SIGNED] _____

NO. 1, VOL. VI, TO BE ISSUED
FEBRUARY 1, 1904

The Macmillan Company

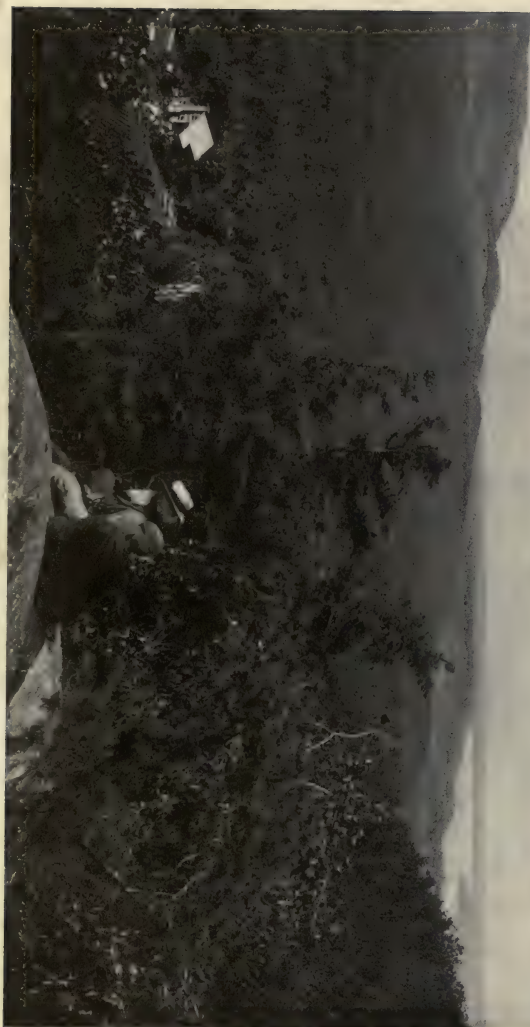
Publishers for the Audubon Societies

HARRISBURG, PA.

NEW YORK

LONDON

THE COUNTRY ABOUT 'SLABSIDES'





1. HOODED WARBLER, MALE.
3. HOODED WARBLER, YOUNG FEMALE.

2. HOODED WARBLER, ADULT FEMALE.
4. YELLOW-BREASTED CHAT, ADULT.

Bird = Lore

A BI-MONTHLY MAGAZINE
DEVOTED TO THE STUDY AND PROTECTION OF BIRDS
OFFICIAL ORGAN OF THE AUDUBON SOCIETIES

Vol. VI

JANUARY — FEBRUARY, 1904

No. 1

The Black Tern at Home

By ERNEST THOMPSON SETON and FRANK M. CHAPMAN

With photographs from nature

"**C**RAIK—craik—craik!" screamed the old Black Tern, in anxious quavering note, as we crossed the low prairie to the particular pond that she had consecrated by making her home on its weedy waters.

The nest had been discovered on June 16, 1901, not far from our camp, near Shoal Lake, Manitoba. A small knob of mud and water-soaked vegetation was selected as a foundation on which to place the nest of coarse reeds. At this time it contained one egg. On June 18 a second egg was laid and, without waiting for the usual complement of three, incubation was begun.

At no time during this remarkable period of a bird's year did the Terns fail to resent intrusion on their haunts. The Blue-winged Teal and Wilson's Phalarope nesting in the long grasses on the border of the slough fluttered from their eggs only when one seemed about to step upon them, but the Tern sprang into the air and, with sharp screams, came to meet us when we were thirty yards away.

On June 25, there occurred an unusually heavy fall of rain, raising the water in the slough several inches and threatening to inundate the little island. But the Terns saved their eggs from the flood by bringing fresh nesting material and raising the height of their home; though whether the action was performed with a definite object or was merely such a display of the nest-building instinct as is not infrequently seen during incubation, it is difficult to determine.

On July 5, after an incubation period, therefore, of seventeen days, the first egg hatched. Three days later we visited the nest, expecting to see a pair of downy young, but, to our surprise and disappointment, it was deserted. Evidently, however, there was something not far away in which



BLACK TERN INCUBATING
June 29, 1901



BLACK TERN BROODING YOUNG
July 8, 1901

the Terns were greatly concerned. With piercing screams they darted at us, once actually hitting Mr. Seton's hat.

Search failing to reveal any sign of the young birds, the camera was left to play detective. Focusing it on the empty nest and surrounding it with 'cat-tails,' we attached some seventy feet of tubing and retired to the high grasses of a neighboring dry bank. But we were not hidden from the Tern. She hovered over us, shrieking her disgust with scarcely a pause, turning her long beak to this side and that, as she brought each eye in turn to bear. Finally, her *craiks* grew softer, and, fluttering over the nest, she uttered a soft *wbeent—wbeent—wbeent*, which probably meant to her down-



YOUNG BLACK TERNS IN NEST
July 8, 1901

sings "It's all right; come back home now." After half a minute of this calling, she fluttered lower and dropped out of sight behind the reed barriers. Apparently, there could be little doubt that with her voice she had conjured the chicks back to the nest.

Acting on this belief, a dozen rapid strokes were given to the bicycle pump at the end of the tube, and the Tern promptly flew up into the air, uttering her loud *craik—craik* in a way that plainly showed something had happened close by to alarm her, and thus plainly told us that the shutter on the camera had been sprung. Instantly we rushed through the mud and water to the nest, but only to find it as empty as before.

Inserting a fresh plate in the camera, we returned to our hiding-place. Again the Tern scolded us vigorously, but after a while, as before, her fears seemed to decrease; she gradually drew nearer to the nest and eventually dropped lightly down into the reeds, evidently on it. After waiting a



BLACK TERN ATTACKING; HOVERING FOR THE DIVE
July 8, 1901



BLACK TERN ATTACKING; AFTER THE DIVE, THE UPWARD SWING
July 8, 1901

moment for her to settle herself, the bicycle pump was again used, and at the twelfth plunge of the piston the Tern shot upward as though she were blown from the end of the tube ! We accepted her action as an unfailing indication that the shutter was properly released and once more splashed quickly through the water to see what we might see ; but only an empty nest met our gaze, and we were as ignorant of the fate of the young Terns as we had been in the beginning.

The continued anxiety of the parents, however, encouraged us to continue our efforts to solve the mysterious disappearance of their chicks, and, after several more attempts similar to those just related, we reached the nest just in time to see the two little ones paddling away into the surrounding reeds, like ducklings. This caused us to believe that on each occasion they had returned to the nest only to desert it again as the old bird left them, but it was not until the plates were developed, a month later, that we could really put together the whole story. Its main facts are shown in the pictures which are here reproduced. One pictures the Tern while incubating. A second pictures her brooding her young after one of their enforced baths in the surrounding waters. Comparison of these pictures shows the difference in the poses of the bird during incubation and while brooding.

A third photograph reveals the two little Terns just as they had climbed into the nest after their long swim for safety. Cold they must have been and they are cuddling close together to keep each other warm,—so close indeed that one may be seen to have his arm about his brother's or sister's neck.



BLACK TERNS IN FLIGHT

July 6, 1901

Horned Larks in Colorado Springs, Colo.

By E. R. WARREN

With photographs from nature by the author

THE winter of 1902-3 was severe in Colorado, and during January and February enough snow lay on the ground about Colorado Springs to prevent the Horned Larks, which are numerous on the plains, from finding their usual supply of seeds. Hunger drove them into the city by thousands. Great flocks were on the down-town streets, feeding on anything in the shape of grain they could find, many being found about the grain- and feed-stores picking up the waste grain. Many people threw out millet and other seeds for them, and they soon learned to flock to those places.

In Alamo Park were two or three places about twelve feet in diameter where seed was thrown to them, and when there was nothing there the birds would be sitting about on the snow waiting. As soon as food was thrown on one of these places it would at once be so covered by the birds that not a bit of ground would be visible, only a mass of birds, fighting and struggling incessantly and keeping up a continual chirping.

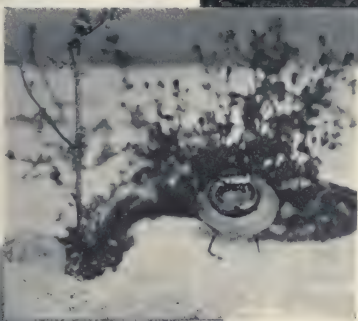
Next to our house, in the north part of the city, is a vacant lot which was overgrown with weeds, and here the Larks came. I put millet out for them at a place where I could conveniently watch from the library window, and the birds soon found it. For several weeks they were about more or less of the time. It was a good place to set the camera and many exposures were made. But the birds are rather pugnacious and continually fighting, and it



HORNED LARKS IN COLORADO SPRINGS

always seemed that no sooner did one get into a good pose at just the right spot than another pitched into him and drove him away, or else he saw another off to one side which needed a thrashing immediately, and away he would go. Feathers would often fly in these little conflicts, and I have seen partly crippled birds which had been hurt in this way. A one-legged bird came about for several days and had rather a hard time, for the others invariably bullied him and drove him away.

I watched the various flocks closely for other species of birds especially Longspurs, which associate with them on the plains,



but the only other bird seen was a Gray-crowned Leucosticte, which was feeding, on the morning of February 13, with a small flock of Larks, just after

a new fall of snow. This was the second time I have seen the species in town, the other occasion being earlier in the winter, when I saw a single bird on the street.

Mr. C. E. Aiken tells me that in the winter of 1871, I think, there were large flocks about the town, which was

HORNED LARK POSES

founded only the summer before. I do not think they very often get so far away from the mountains.

After the first of March the weather moderated, and the Larks, all of which appeared to be Desert Horned Larks, began to disappear, going out on the plains again.

The Christmas Bird Census

BIRD-LORE'S Fourth Christmas Bird Census was even more successful than any of the three which have preceded it. This fact is best expressed by a statement of the number of reports received each year since the Census was inaugurated. Thus, in 1900 twenty-five reports were sent in, in 1901, thirty-four, in 1902, fifty-three, and in 1903, seventy-eight.

The area covered extends from Ontario, Vermont, New Hampshire, Michigan and Wisconsin, south to Florida and Texas, west to California and Washington; and the Census is interesting, not alone from the number of reports made, but also because of the rather unusual character of their contents. Pine Grosbeaks, which last year were not mentioned by a single observer, are now reported from New Hampshire, Vermont and Michigan, to as far south as Wernersville, Pennsylvania, and Kewanee, Illinois, and Redpolls are also included in a number of the lists received. A further feature of the reports is the abundance of Chickadees noted.

Queenstown, Ontario, Canada, along River Road.—December 22; time, 11 A. M. to 12.30 P. M.; 1.30 P. M. to 5 P. M. Partly cloudy; ground bare, wind west to north-west, strong; temp., 24°. Herring Gull, 35; American Merganser, 2; Golden-eye, 5; Downy Woodpecker, 1; Blue Jay, 10; Crow, 3; Goldfinch, 3; White-breasted Nuthatch, 4; Chickadee, 60; Total, 9 species, 123 individuals.—HARRY HUBBARD LARKIN.

Wilton, N. H.—Time, 9.30 A. M. to 12 M. Cloudy; ground bare; wind west, light; temp., 42°. Ruffed Grouse, 3; Downy Woodpecker, 4; Blue Jay, 7; American Crow, 2; Pine Grosbeak, 43; American Goldfinch, 1; Tree Sparrow, 5; Junco, 7; Catbird, 1; Brown Creeper, 5; White-breasted Nuthatch, 4; Red-breasted Nuthatch, 4; Chickadee, 11. Total, 13 species, 97 individuals. The Catbird is evidently a 'left-over.' I have seen the bird once before, about three weeks ago, feeding on frozen apples.—GEORGE G. BLANCHARD.

Bethel, Vt.—December 24; time, 3 P. M. to 4.30 P. M. Heavy clouds, raining slightly; ground mostly snow-covered, as it has been since November 24; temp., 36°. From window overlooking a bird's lunch counter. Blue Jay, 4; Pine Grosbeak, 3; Goldfinch, 10; Chickadee, 7. Total, 4 species, 24 individuals.—ELTA M. LEWIS.

Bristol, Vt.—Time, 9 A. M. to 4 P. M. Cloudy; ground mostly bare; wind north-west, light; temp., 32°. Ruffed Grouse, 2; Downy Woodpecker, 2; Pileated Woodpecker, 1; Goldfinch, 31; Tree Sparrow, 45; White-breasted Nuthatch, 1; Chickadee, 6. Total, 7 species, 88 individuals.—A. C. DIKE.

Brattleboro, Vt.—Time, 9 A. M. to 2.30 P. M. Cloudy; ground partly covered with snow; wind south, light; temp., 43°. Downy Woodpecker, 2; White-throated Sparrow, 2; Tree Sparrow, 2; Brown Creeper, 4; White-breasted Nuthatch, 8; Red-breasted Nuthatch, 1; Chickadee, 18; Golden Crowned Kinglet, 4. Total 8 species, 41 individuals.—WM. C. HORTON.

Nahant, Mass.—December 28; 9.30 to 3.30. Clear; snow on ground; wind north-west, fresh; temp., 16°. Holbøll's Grebe, 2; Loon, 2; Red-throated Loon, 1; Great Black-backed Gull, 15; Herring Gull, 75; Red-breasted Merganser, 24; American Golden-eye, 18; Old Squaw, 7; White-winged Scoter, 4; Crow, 30; Redpoll [probably Greater], 1; Song Sparrow, 5; Mockingbird, 1; Chickadee, 7. Total, 14 species, 185 individuals.—HERVEY W. KING.

Moon Island and Squantum, Mass.—December 24; time, 9 A. M. to 2 P. M. Cloudy; ground bare; wind southwest, light; temp., 36° to 47° . Horned Grebe, 1; Black-backed Gull, 2; Herring Gull, 245; American Scaup Duck, 415; American Golden-eye, 137; Buffle-head, 40; Old Squaw, 14; American Scoter, 18; Northern Downy Woodpecker, 1; Flicker, 6; American Crow, 151; Meadowlark, 6 (several in song); Tree Sparrow, 1; Song Sparrow, 4; Chickadee, 11; Robin, 1. Total, 16 species, 1,053 individuals.—FRANCIS G. and MAURICE C. BLAKE.

Nahant Beach, Mass.—December 26; time, 10.20 A. M. to 12.20 P. M. Cloudy; snowing heavily; ground covered; wind northwest, very high; temp., 24° to 33° . Black-backed Gulls, 5; Herring Gull, 71; Horned Lark, 11; American Crow, 16; Song Sparrow, 1; Chickadee, 1. (The snow made it impossible to see out over the water.) Total, 6 species, 105 individuals.—FRANCIS G. and MAURICE C. BLAKE.

Boston, Mass. (Charles River, the Back Bay Fens, Parkway, Olmstead Park, Jamaica Pond and the Arnold Arboretum). December 28; time, 8.45 A. M. to 3 P. M. Clear; ground covered; wind west, brisk; temp., 16° . Black-backed Gull, 7; Herring Gull, 39; Black Duck, 6; American Golden-eye, 57; Hairy Woodpecker, 1; Downy Woodpecker, 1; Flicker, 26; Blue Jay, 10; American Crow, 13; Pine Grosbeak, 3; White-winged Crossbill, 3; American Goldfinch, 11; White-throated Sparrow, 8; Tree Sparrow, 6; Junco, 13; Song Sparrow, 5; Northern Shrike, 1; Brown Creeper, 3; Chickadee, 26; Golden-crowned Kinglet, 7. Total, 21 species, 240 individuals.—FRANCIS G. and MAURICE C. BLAKE.

Boston, Mass. (From Harvard Bridge through the Back Bay Fens and Riverway, Olmstead and Jamaica Parks and the Arnold Arboretum; six miles of the city park system.)—December 24; 8.30 to 4. Cloudy; ground bare; wind southwest, light; temp., 39° to 47° . Great Black-backed Gull, 1; Herring Gull, 22; Black Duck, 116 (six on Jamaica Pond); American Golden-eye, 172; Bob-white, 13; Sharp-shinned Hawk, 1; Sparrow Hawk, 1; Hairy Woodpecker, 1; Downy Woodpecker, 1; Flicker, 21; Blue Jay, 7; Crow, 24; Pine Grosbeak, 12; Purple Finch, 2; Goldfinch, 11; White-throated Sparrow, 10 (two in song); Junco, 21; Song Sparrow, 8; Fox Sparrow, 2; Myrtle Warbler, 1; Brown Creeper, 3; White-breasted Nuthatch, 5; Chickadee, 44; Golden-crowned Kinglet, 4. Total, 24 species, 503 individuals. December 19. Northern Shrike, 1; American Crossbill, 1; Tree Sparrow, 21; Hermit Thrush, 1; Robin, 1.—HORACE W. WRIGHT.

Forest Hill Station, Mass. (through the Arnold Arboretum, Faulkner and Weld Farms to Chestnut Hill).—Time, 11.45 A. M. to 2.15 P. M. Sky overcast; wind light, no snow on the ground; temp., 45° . Flicker, 1; Crow, 8; Tree Sparrow, 4; Junco, 14; Brown Creeper, 1; White-breasted Nuthatch, 3; Chickadee, 10. Total, 7 species, 41 individuals.—J. S. CODMAN.

Cambridge, Mass., Fresh Pond.—December 26. Time, 9.50 A. M. to 11.30 A. M. Clear, ground bare; wind southeast, medium; temp., 35° . Great Black-backed Gull, 2; Herring Gull, 33; Sparrow Hawk, 1; Downy Woodpecker, 1; Crow, 5; Tree Sparrow, 1; Song Sparrow, 1; White-breasted Nuthatch, 2; Chickadee, 3; Golden-crowned Kinglet, 2. Total, 14 species, 52 individuals.—FRANCIS A. P. JAMES.

Cambridge, Mass.—Time, 9.10 A. M. to 12.10 P. M.; 3 P. M. to 4 P. M. Slight southwest wind. Sky heavily overcast. Rain in the afternoon. Great Black-backed Gull, 8; Herring Gull, 600; American Merganser, 1; Black Duck, 42; Mongolian Pheasant, 1; Sparrow Hawk, 2; Downy Woodpecker, 3; Flicker, 2; Crow, 11; Goldfinch, 1; Tree Sparrow, 46; Junco, 1; Song Sparrow, 6; Brown Creeper, 2; Chickadee, 14. Total, 15 species, 740 individuals. A Grackle was observed December 24.—HELEN C. SCORGIE and ELVIRA L. SCORGIE.

Cambridge, Mass., (past Fresh Pond through the Fresh Pond Marshes, over Arlington Heights to Waverly)—Time, 8.40 A. M. to 12 M. Cloudy; very light southwest

wind; temp., 42°. Herring Gull, 80; Black-backed Gull, 1; Merganser (American or Red-breasted), 1; Black Duck, 39; Golden-eye, 1 (all these on the Fresh Pond); Bob-white, 1; Downy Woodpecker, 3; Hairy Woodpecker, 1; Northern Flicker, 6; Crow, 20; Blue Jay, 1; Red-winged Blackbird, 2 (in the Fresh Pond Marshes); Pine Grosbeak, 2; Goldfinch, 2; Tree Sparrow, 20; Song Sparrow, 3; Brown Creeper, 2; White-breasted Nuthatch, 3; Chickadee, 30; Golden-crowned Kinglet, 25. Total, 21 species, 243 individuals.—ARTHUR C. COMEY.

Elmwood, Mass.—Time, 8 A. M. to 12 M. Cloudy; ground bare; wind southwest, light; temp., 40°. Downy Woodpecker, 1; Flicker, 7; Blue Jay, 5; Crow, 9; Meadowlark, 10; Goldfinch, 2; Tree Sparrow, 26; Junco, 12; Song Sparrow, 3; White-breasted Nuthatch, 1; Chickadee, 40. Total, 11 species, 116 individuals.—H. HERBERT MARSHALL.

Paxton, Mass.—Time, 10.45 A. M. to 12.30 P. M. Cloudy, ground bare; wind west, light; temp., 42°. Ruffed Grouse, 1; Pine Grosbeak, 21; Redpoll, 75; Tree Sparrow, 1; Chickadee, 3. Total, 5 species, about 101 individuals.—ABBY W. CHRISTENSEN.

Stoneham, Mass.—Time, 12.30 to 2 P. M. Sky clouded, ground bare; calm; temp., 40°. Herring Gull, 300; Black Duck, 200; Ruffed Grouse, 3; Downy Woodpecker, 2; Flicker, 1; Crow, 9; Blue Jay, 3; White-breasted Nuthatch, 1; Chickadee, 19. Total, 9 species, about 538 individuals.—ERNEST HAROLD BAYNES.

Milton Hill, Norfolk County, Mass.—Time, 7 to 9 A. M. Cloudy, warm; wind southwest, light; ground bare; temp., 42°. Herring Gull, 7; Snowy Owl, 1; Downy Woodpecker, 1; Flicker, 6; Blue Jay, 3; Crow, 100; Pine Grosbeak, 2; Redpoll, 7; Greater Redpoll, 2, in flock with preceding; Goldfinch, 3; Pine Siskin, 10; Song Sparrow, 6; Brown Creeper, 2; White-breasted Nuthatch, 3; Chickadee, 30; Golden-crowned Kinglet, 20; Robin, 4. Total, 17 species 207 individuals.—STANLEY COBBS.

Beverly, Mass.—December 24, 1903; 10 A. M. to 12 M. Cloudy; ground bare; wind northwest by west, light; temp., 40°. Downy Woodpecker, 1; Crow, 8; Goldfinch, 40; Flicker, 18; Tree Sparrow, 2; Song Sparrow, 1; Junco, 6; Myrtle Warbler, 2; Chickadee, 45; Brown Creeper, 1; White-breasted Nuthatch, 1; Golden-crowned Kinglet, 3; Pine Grosbeak, 41. Total, 13 species, 169 individuals.—CHARLOTTE W. BUTLER.

Woonsocket, R. I.—December 26; 7 to 10 A. M. Cloudy; light snow squalls; ground bare; wind north, light; temp., 30°. Blue Jay, 2; American Crow, 4; Goldfinch, 5; Tree Sparrow, 12; Junco, 9; Song Sparrow, 1; Winter Wren, 1; Brown Creeper, 1; Golden-crowned Kinglet, 5. Total, 9 species, 40 individuals.—CLARENCE M. ARNOLD.

Providence, R. I.—Dec. 24, 10.30 A. M. to 1 P. M. Overcast; ground bare; wind south, in gusts; temp., 30°. Crow, 10; Blue Jay, 2; Meadowlark, 1; Swamp Sparrow, 4; Tree Sparrow, 25; Fox Sparrow, 2; Junco, 30; Goldfinch, 6; Chickadee, 12; Bluebird, 1. Total, 10 species, 93 individuals.—ANNA E. COBB.

Gloicester, Providence Co., R. I.—Time, 8.30 A. M. to 12.30 P. M. Cloudy, raining at noon; ground bare; wind west, light; temp., 40°. Ruffed Grouse, 8; Downy Woodpecker, 1; Blue Jay, 1; Tree Sparrow, 3; Myrtle Warbler (flock), 15; Chickadee, 8. Total, 6 species, 36 individuals. December 9, saw 3 Pine Grosbeaks. December 12, 13 and 15, saw 1 Robin, probably same individual. Flock of 40 or 50 Goldfinches seen frequently.—J. IRVING HILL.

Bristol, Conn.—December 25, 7 A. M. to 1 P. M.; December 26, 7 A. M. to 9.30 A. M. Ruffed Grouse, 9; Marsh Hawk, 1; Red-tailed Hawk, 1; Pigeon Hawk, 1; Sparrow Hawk, 1; Hairy Woodpecker, 2; Downy Woodpecker, 6; Blue Jay, 29; Crow, 233; Pine Grosbeak, 6; Goldfinch, 59; Tree Sparrow, 49; Junco, 9; Winter Wren, 1; Brown Creeper, 3; White-breasted Nuthatch, 27; Red-breasted Nuthatch, 2; Chickadee,

72; Golden-crowned Kinglet, 12; Bluebird, 3. Total, 20 species, 526 individuals. December 23 a male Towhee was seen.—FRANK BRUEN, R. W. FORD, F. H. HOLME, NEWTON MANROSS and EGBERT SMITH.

Edgewood Park, New Haven, Conn.—Time, 9.45 A. M. to 1 P. M. Cloudy to rainy; ground bare; wind northwest, light; temp., 39°. Crow, 5; Blue Jay, 2; Song Sparrow, 2; Northern Shrike, 1; White-breasted Nuthatch, 1; Chickadee, 19. Total, 6 species, 30 individuals.—A. A. SAUNDERS.

South Norwalk, Conn.—Distance covered, 8 miles. Cloudy, with rain; temp., 40°. Grebe, 3; Loon, 3; Herring Gull, 193; Black Duck, 25; Shoveler, 175; Golden-eye, 10; Old Squaw, 50; Downy Woodpecker, 11; Blue Jay, 3; Crow, 10; Meadowlark, 29; Junco, 46; Tree Sparrow, 51; Song Sparrow, 7; Chickadee, 16; White-breasted Nuthatch, 7. Total, 16 species, 579 individuals. December 22 a Carolina Wren was seen.—WILBUR SMITH (land-birds) and THOMAS SAUNDERS (water-birds).

Saranac Lake, N. Y.—Time, 9.30 A. M. to 11.30 A. M.; 12.30 P. M. to 1.45 P. M. Cloudy; wind westerly and gusty; ground covered with eighteen inches of snow; temp., 20° to 24°. Pine Grosbeak, 17; Brown Creeper, 1; White-breasted Nuthatch, 2. Total, 3 species, 20 individuals.—NORMAN MCLEOD CARTER.

Canandaigua, N. Y.—Time, 8.30 A. M. to 12 M., 2 to 4 P. M. Cloudy; wind west, strong in the morning, light in the afternoon, snow falling most of the time; temp., 27°. Herring Gull, 1; American Scaup Duck, 1; Downy Woodpecker, 2; Red-headed Woodpecker, 1; Crow, about 200; Tree Sparrow, 11; Song Sparrow, 1; White-breasted Nuthatch, 5; Chickadee, 21. Total, 9 species, 243 individuals.—FRANK T. ANTES.

Auburn, N. Y.—Time, 9 A. M. to 2 P. M. Ground covered with snow, strong northwest wind and snow falling heavily during forenoon; temp., 20°. Horned Grebe, 4; Herring Gull, 1; American Merganser, 3; American Golden-eye, 1; Hairy Woodpecker, 1; Downy Woodpecker, 1; Crow, 151; Tree Sparrow, 4; White-breasted Nuthatch, 4. Total, 9 species, 170 individuals.—F. J. STUPP.

Hilton, N. Y.—December 21; 9 A. M. to 12 M., 1 P. M. to 4 P. M. Ground covered with snow; clear; wind not perceptible; temp., 31° to 33°. Pheasant (*Phasianus torquatus*), 1; Hairy Woodpecker, 1; Downy Woodpecker, 7; Crow, 15; American Goldfinch, 20; Snowflake, 200; Tree Sparrow, 50; Junco, 2; Song Sparrow, 2; White-breasted Nuthatch, 9; Chickadee, 30; Golden-crowned Kinglet, 11. Total, 12 species, 348 individuals.—JOHN ARCHER and ALBERT H. WRIGHT.

Rhinebeck, N. Y.—Time, 8.45 to 9.45 A. M., and 2.15 to 4.15 P. M. Cloudy; wind west, light; temp., 39°. Bob-white, 1; Ruffed Grouse, 3; Red-tailed Hawk, 1; Hairy Woodpecker, 1; Downy Woodpecker, 1; Blue Jay, 4; Crow, 8; Tree Sparrow, 2; Brown Creeper, 2; White-breasted Nuthatch, 4; Chickadee, 14; Golden-crowned Kinglet, 1; Robin, 1. Total, 13 species, about 43 individuals.—MAUNSELL S. CROSBY.

Huntington, Long Island, N. Y.—December 24; 9 A. M. to 12 M. Cloudy, ground bare; wind southeast, light; temp., 38°. Downy Woodpecker, 3; Flicker, 1; Yellow-bellied Sapsucker, 1; Crow, 7; Blue Jay, 1; Meadowlark, 8; Goldfinch, 15; Tree Sparrow, 4; Junco, 26; Song Sparrow, 2; Cedarbird, 4; Myrtle Warbler, 3; White-breasted Nuthatch, 3; Chickadee, 18; Robin, 4. Total, 15 species, 100 individuals.—CHARLOTTE E. LEE.

Greenport, L. I.—Time, 9.30 A. M. to 12 M. Raining, ground bare; wind southwest, light; temp., 53°. Herring Gull, 27; Black Duck, 48; Downy Woodpecker, 2; Crow, 14; Meadowlark, 1; Pine Siskin, 6; Redpoll, 8; Song Sparrow, 4; Junco, 50; Myrtle Warbler, 200; White-breasted Nuthatch, 1; Chickadee, 28; Robin, 1. Total, 13 species, about 380 individuals.—KARL B. SQUIRES.

College Point, N. Y.—Time, 10.30 A. M. to 1.30 P. M.; 3.40 P. M. to 4.45 P. M. Cloudy, rain in forenoon; ground bare; wind west, brisk; temp., 44°. Herring Gull, 3; Crow, 4; Meadowlark, 1; Junco, 10; Tree Sparrow, 12; Song Sparrow, 15; Chickadee, 4. Total, 7 species, 49 individuals.—FRANCIS HARPER.

Rockaway Park Beach, L. I.—December 24, 1903; time, 10.25 A. M. to 2.30 P. M. Weather cloudy; wind, brisk southwest; ground without snow; Herring Gull, common all along, with one flock of 90; Black-backed Gull, 7; Duck, species 4; Crow, 35; Meadow-lark, 1; Tree Sparrow, several; Robin, 1. Total, 7 species.—CHARLES H. ROGERS and HAROLD E. PORTER.

Central Park, New York City.—December 26, 12.25 P. M. to 3.45 P. M. Weather, fine; wind, strong, west; ground covered with light and drifting snow; temp., 16° to 27°. Herring Gull, 1 flock of 60; Downy Woodpecker, 2; White-throated Sparrow, 2; Song Sparrow, 2; Cardinal, 1; White-breasted Nuthatch, 2; Chickadee, 8. Total, 7 species, 78 individuals.—CHARLES H. ROGERS.

Central Park, New York City (north of 72d street).—Time, 11 A. M. to 1 P. M. Light, southwest wind. Rain throughout; temp., 42°. Herring Gull, 1,100; Hairy Woodpecker, 1; Downy Woodpecker, 4; Starling, 3; White-throated Sparrow, 75; Song Sparrow, 1; Cardinal, 4; Brown Creeper, 3; White-breasted Nuthatch, 6; Chickadee, 25. Total, 10 species (exclusive of House Sparrows), about 1,222 individuals.—CLINTON G. ABBOTT.

Central Park, New York City.—9.30 to 11. Wind moderate, southwest; a heavy rain most of the time; temp., 38°. Herring Gull, 1,200 (estimated); Hairy Woodpecker, 1; Downy Woodpecker, 1; Starling, 4; White-throated Sparrow, 11; Song Sparrow, 3; Cardinal, 2; Junco, 4; White-breasted Nuthatch, 1; Chickadee, 22; Hermit Thrush, 1. Total, 11 species, 1,250 individuals.—ISAAC BILDERSEE.

Central Park, New York City.—Time, 8.45 to 10.25 A. M. Cloudy, sprinkling part of the time; light southwest wind; temp., 43°. Herring Gull, 500 (estimated); Downy Woodpecker, 1; Starling, 3; White-throated Sparrow, 7; Song Sparrow, 1; Red-breasted Nuthatch, 1; Chickadee, 5; Hermit Thrush, 1. Total, 8 species, about 519 individuals.—GEORGE E. HIX.

Montclair, N. J.—Time, 8.30 A. M. to 1 P. M.; 2.30 P. M. to 5.30 P. M. Weather cloudy, with light rain turning to snow; ground bare; wind northwest to south, light; temp., 35°. Cooper's Hawk, 1; Downy Woodpecker, 2; Blue Jay, 5; Crow, 71; Purple Grackle, 1; Pine Grosbeak, 17; Goldfinch, 7; Tree Sparrow, 16; Junco, 400; Song Sparrow, 3; Northern Shrike, 2; Carolina Wren, 2 (has been seen several times since fall); Brown Creeper, 2; White-breasted Nuthatch, 6; Chickadee, 47; Golden-crowned Kinglet, 4; Robin, 1; Bluebird, 13. Total, 18 species, 600 individuals.—VINCENT E. GORMAN and FRED T. MORISON.

Passaic, N. J.—9 A. M. to 11.30 A. M. Cloudy, raining part of the time; ground bare; wind southwest, light; temp., 40°. Crow, 3; Song Sparrow, 3; Tree Sparrow, 4; White-throated Sparrow, 3; Brown Creeper, 1; Chickadee, 2; White-breasted Nuthatch, 1. Total, 7 species, 17 individuals.—GILBERT H. TRAFTON.

Beverly, N. J.—December 26, 8 A. M. to 3.30 P. M. Snow flurries in the morning, clear in the afternoon, ground bare; wind southwest, changing to northwest, very strong; average temp., 28°. Bob-white, 8; Red-tailed Hawk, 1; Downy Woodpecker, 12; Blue Jay, 1; Crow, 500; Goldfinch, 6; White-throated Sparrow, 50; Tree Sparrow, 20; Junco, 200; Song Sparrow, 15; Cardinal, 13; White-breasted Nuthatch, 5; Red-breasted Nuthatch, 1; Tufted Titmouse, 20; Chickadee, 32; Golden-crowned Kinglet, 7. Total, 16 species, 892 individuals.—J. FLETCHER STREET.

Moorestown, N. J.—Time, 9.30 A. M. to 12.30 P. M. Raining, ground bare; wind west, very light; temp., 40°. Blue Jay, 4; Crow, 12; White-throated Sparrow, 10; Tree Sparrow, 4; Junco, 1; Song Sparrow, 15 (singing); Cardinal, 4; Catbird, 1 (wing injured); Winter Wren, 4 (singing); Golden-crowned Kinglet, 2. Total, 10 species, 57 individuals.—L. M. JACOB and A. A. MICKLE.

Moorestown, Burlington County, N. J.—Time, 6.55 A. M. to 7.55 A. M. and 8.45 A. M. to 5.15 P. M. Weather, overcast, high clouds. At 7.50 A. M. light rain set in,

continuing briskly till 2.18 P. M., when it slackened and ceased. Wind light, northwest; ground bare of snow; temp., 38°. Bob-white, 4; Red-tailed Hawk, 5; Sparrow Hawk, 3; Downy Woodpecker, 10; Flicker, 3; Blue Jay, 2; Crow, 50; Meadowlark, 19; Purple Grackle, 2; Goldfinch, 1; White-throated Sparrow, 13; Tree Sparrow, 72; Junco, 114; Song Sparrow, 11; Cardinal, 10; Northern Shrike, 1; Catbird, 1 (with one drooping wing; probably unable to migrate); Winter Wren, 4; White-breasted Nuthatch, 2; Red-breasted Nuthatch, 1; Tufted Titmouse, 9; Black-capped Chickadee, 6; Golden-crowned Kinglet, 2; Hermit Thrush, 1; Robin, 1. Total, 25 species, about 347 individuals.—WILLIAM B. EVANS.

Newfield, Gloucester County, N. J.—Time, 2.20 P. M. to 4.40 P. M. Drizzling rain, with slight mist; ground bare; no wind; temp., 38°. Downy Woodpecker, 2; Flicker, 2; Blue Jay, 2; Junco, 200; Tree Sparrow, 30; Song Sparrow, 3; Chickadee, 12; Golden-crowned Kinglet, 1. Total, 8 species, about 252 individuals.—WM. W. FAIR.

Wildwood, Cape May County, N. J. (Five-Mile Beach to Rio Grand and Anglesea Junction).—December 27. Time, 7.30 A. M. to 4.30 P. M. Fair and cloudy; wind southwest, heavy; temp., 8°. Black-backed Gull, 2 adults; Herring Gull, 100; Ring-billed Gull, 2; Scaup Duck, 15; Killdeer, 2; Turkey Buzzard, 2; Marsh Hawk, 1; Sharp-shinned Hawk, 1; Red-tailed Hawk, 3; Bald Eagle, 1; Hairy Woodpecker, 1; Downy Woodpecker, 2; Flicker, 6; Horned Lark, 1; Blue Jay, 2; Crow, 300; Red-winged Blackbird, 1 young male; Meadowlark, 75; Purple Finch, 15; Goldfinch, 50; White-throated Sparrow, 75; Tree Sparrow, 6; Field Sparrow, 2; Junco, 200; Song Sparrow, 75; Fox Sparrow, 25; Towhee, 3 males, 1 female; Cardinal, 16; Myrtle Warbler, 800; Mockingbird, 1; Brown Thrasher, 2; Carolina Wren, 15; White-breasted Nuthatch, 4; Carolina Chickadee, 25; Hermit Thrush, 4; Robin, 150; Bluebird, 75. Total, 37 species, 2,061 individuals.—WM. L. BAILY.

Fairmount Park, Philadelphia, Pa.—Time, 9 A. M. to 4.30 P. M. Cloudy, a steady rain falling, clearing about 2 P. M.; ground bare; wind southwest, light; temp., 40°. American Herring Gull, 2; American Merganser, 20; Red-tailed Hawk, 1; Cooper's Hawk, 1; Sparrow Hawk, 1; Downy Woodpecker, 2; Flicker, 2; Crow, 50; White-throated Sparrow, 4; Junco, 30; Song Sparrow, 14; Carolina Wren, 2; Winter Wren, 1; White-breasted Nuthatch, 1; Chickadee, 8; Golden-crowned Kinglet, 4; Ruby-crowned Kinglet, 1. (I am certain of this bird's identity. I was within 6 feet of it and it displayed its ruby crown-patch five or six times. It was in company with a Song Sparrow exploring a weed patch and brush heap.) Total, 17 species, 144 individuals. On December 6, Cardinals, Crested Titmice and Brown Creepers were seen. Today is the first time that I have failed to find Cardinals in Fairmount Park.—CHRESWELL J. HUNT.

Wissinoming, Pa.—Dec. 23; 1 to 4 P. M. Clear; wind west, moderate; temp., 45°. Crow, 7; Tree Sparrow, 25; Junco, 1; Song Sparrow, 7; Fox Sparrow, 3; Cardinal, 2; White-breasted Nuthatch, 1; Tufted Titmouse, 1; Winter Wren, heard. Total, 10 species, about 46 individuals.—RICHARD F. MILLER.

Near West Chester, Pa.—Cloudy, rain most of day; light southwest wind. Red-tailed Hawk, 1; Downy Woodpecker, 3; Crow, 50; Junco, 200; Tree Sparrow, 50; Song Sparrow, 10; White-breasted Nuthatch, 6; Chickadee, 5; Brown Creeper, 2. Total, 9 species, 327 individuals.—THOMAS H. JACKSON.

Glenside, Pa.—Time, 11 A. M. to 12.30 P. M. Rainy; wind south, light; temp., 43°. Sparrow Hawk, 1; Red-tailed Hawk, 1; Flicker, 3; Downy Woodpecker, 1; Crow, 50; Fish Crow, 1; Meadowlark, 7; Song Sparrow, 1; Junco, 12; Chickadee, 4. Total, 10 species, 81 individuals.—SAMUEL H. BARKER.

Rohrerstown, Pa.—Time, 2 to 5 P. M. Cloudy; ground bare, except snow on north side of hills; temp., 40°. Cooper's Hawk, 1; Screech Owl, 1; Hairy Woodpecker, 2;

Downy Woodpecker, 5; Crow, 200; Tree Sparrow, 40; Junco, 30; Song Sparrow, 1; Cardinal, 1; White-breasted Nuthatch, 1; Chickadee, 18. Total, 11 species, about 300 individuals.—JACOB STEHMAN.

Lansdowne, Pa.—Time, 7.45 A. M. to 8.30 A. M. Light rain; ground bare; wind east, light; temp., 42°. Duck (Baldpate?), 1; Downy Woodpecker, 1; Crow, 12; Goldfinch, 30; Vesper Sparrow, 1; White-throated Sparrow, 6; Field Sparrow, 6; Junco, 6; Song Sparrow, 3; Cardinal, 2; Golden-crowned Kinglet, 4. Total, 11 species, 72 individuals.—J. HAROLD AUSTIN.

Wernersville, Pa.—Time, 9.30 A. M. to 11.30 A. M. Cloudy; patches of snow on hillsides, low ground bare; wind southeast, light; temp., 40°. Downy Woodpecker, 2; Blue Jay, 4; Crow, 25; Pine Grosbeak, 10; Goldfinch, 7; Tree Sparrow, 2; Junco, 70; Song Sparrow, 2; Cardinal 6; Cedar Waxwing, 5; White-breasted Nuthatch, 3; Chickadee, 4. Total, 12 species, 140 individuals.—CAROLINE B. THOMPSON.

Durham, N. C.—Time, 1 to 2.30 P. M. Weather, gray and rainy, rather warm. Species observed; Turkey Vulture, 1; Downy Woodpecker, 1; Flicker, 5; Crow, 5; Goldfinch, 15; White-throated Sparrow, 15; Field Sparrow, 50; Junco, 150; Song Sparrow, 75; Cardinal, 1; Carolina Wren, 7; Tufted Titmouse, 3; Carolina Chickadee, 4; Bluebird, 25; White-breasted Nuthatch, 1. Total, 15 species, 358 individuals.—ERNEST SEEMAN.

Atlanta, Ga.—Time, 10.30 A. M. to 3 P. M. Cloudy, rain in A. M.; ground bare; wind north, light; temp., 54°. Killdeer, 3; Bob-white, 8; Mourning Dove, 5; Turkey Vulture, 19; Broad-winged Hawk, 6; Sparrow Hawk, 4; Downy Woodpecker, 7; Red-bellied Woodpecker, 2; Flicker, 6; Meadowlark, 12; Blue Jay, 8; Crow, 7; Red-winged Blackbird, 250; Purple Grackle, 3; Goldfinch, 9; White-throated Sparrow, 3; Field Sparrow, 41; Junco, 22; Towhee, 5; Cardinal, 9; Cedar Waxwing, 18; Logger-head Shrike, 1; Mockingbird, 3; Brown Thrasher, 2; House Wren, 8; Tufted Titmouse, 9; Carolina Chickadee, 10; Golden-crowned Kinglet, 33; Robin, 28; Bluebird, 15. Total, 30 species, about 556 individuals.—EUGENE L. McDANIEL.

Miami, Florida.—December 26; time, 8.30 A. M. to 10.30 A. M.; temp., 81°. Observed from March Cottage. Ground Dove, Turkey Buzzard, Black Vulture, Ruby-throated Hummingbird, Phoebe, Fish Crow, Blue Jay, Boat-tailed Grackle, Baltimore Oriole, Cardinal, Palm Warbler, Parula Warbler, Ovenbird. Total, 13 species.—SARAH F. AINSWORTH.

Jackson, Miss.—Time, 2 to 3.30 P. M. Cloudy; temp., 52°. Turkey Vulture, 7; Black Vulture, 5; Downy Woodpecker, 2; Hairy Woodpecker, 2; Red-bellied Woodpecker, 2; Flicker, 4; Song Sparrow, 2; White-crowned Sparrow, 2; Fox Sparrow, 4; Cardinal, 5; Myrtle Warbler, 15; Winter Wren, 1; Carolina Wren, 1; Thrasher, 2; Mockingbird, 3; Golden-crowned Kinglet, 1; Bluebird, 3. Total, 17 species, 61 individuals.—J. T. PARK.

Knickerbocker, Tom Green County, Texas.—December 22, 9 A. M. to 11.30 A. M. and 3.30 P. M. to 5.30 P. M. Clear; ground bare; wind south, light; temp., 60°. Pied-billed Grebe, 2; Red-breasted Merganser, 15; Mallard, 33; Green- and Blue-winged Teal, 14; Great Blue Heron, 1; Wilson Snipe, 1; Killdeer, 2; Scaled Partridge, 11; Mourning Dove, 4; Black Vulture, 10; Sharp-shinned Hawk, 1; Red-tailed Hawk, 2; Sparrow Hawk, 1; Belted Kingfisher, 3; Texan Woodpecker, 3; Golden-fronted Woodpecker, 7; Red-shafted Woodpecker, 8; Phoebe, 3; Pallid (?) Horned-Lark, 35; Texan Jay, 3; Western Meadow-lark, 50; Bronzed Grackle, 20; (?) Goldfinch, 8; Western Vesper Sparrow, 6; Gambel White-crowned Sparrow, 30; Black-throated Sparrow, 2; Mountain Song Sparrow, 9; Gray-tailed Cardinal, 7; Lark Bunting, 35; Cedar Waxwing (?), 6; White-rumped Shrike, 1; Audubon Warbler, 3; Grinnell Water-Thrush, 1; Western Mockingbird, 10; Baird Wren, 3; Rocky Mountain Creeper, 1; Red-breasted Nuthatch, 1; Black-crested Titmouse, 4; Golden-crowned Kinglet, 6;

Ruby-crowned Kinglet, 4; Western Robin, 150; Chestnut-backed Bluebird, 8. Total, 44 species, 531 individuals.—WM. GRAY HARMAN.

La Grange, Missouri.—December 24; 9 A. M. to 1.30 P. M. Clearing after rainy night, very muddy; wind northwest, brisk; temp., 38°. Red-shouldered Hawk, 2; Hairy Woodpecker, 1; Downy Woodpecker, 4; Red-bellied Woodpecker, 4; Blue Jay, 11; Crow, 4; Purple Finch, 3; Goldfinch, 16; Tree Sparrow, 20; Junco, 53; Cardinal, 6; Shrike, 1; White-breasted Nuthatch, 4; Tufted Titmouse, 8; Chickadee, 20. Total, 15 species, 157 individuals.—SUSAN M. JOHNSON.

Clearmont, Mo.—Time, 7.30 to 8 A. M., and 9.10 A. M. to 1.50 P. M. Cloudy at start, clearing later, ground bare; wind southwest. Red-tailed Hawk, 2; Marsh Hawk, 1; Great-horned Owl, 1; Screech Owl, 1; Downy Woodpecker, 7; Red-bellied Woodpecker, 1; Crow, 330; Blue Jay, 5; Goldfinch, 1; Tree Sparrow, 75; Junco, 14; Cardinal, 1; Tufted Titmouse, 5; Chickadee, 27; White-breasted Nuthatch, 9; Brown Creeper, 3. Total, 16 species, 486 individuals.—EDWARD W. GRAVES.

Cameron, Clinton County, Mo.—Time, 11 A. M. to 12.30 P. M. Sky cloudy and overcast with driving, sleet-like snow; wind cold, from the northwest and blowing from, about 35 miles to 40 miles; temp., 26°. Downy Woodpecker, 2; Blue Jay, 6; Cardinal, 1; Junco, 12; Chickadee, 2; White-breasted Nuthatch, 2. Total, 6 species, 25 individuals.—CHARLES NORMAN.

Lexington, Ky.—Time, 7 to 8 A. M., 10 to 11 A. M., 3 to 4 P. M. Clear, ground bare; wind west, fresh to brisk; temp., 35°. Sparrow Hawk, 3; Screech Owl (heard at evening) 1; Hairy Woodpecker, 1; Downy Woodpecker, 1; Horned Lark, 11; American Crow, 100 and more; Bronzed Grackle, 17; Tree Sparrow, 2; Song Sparrow, 10; Cardinal, 3; Mockingbird, 1; Carolina Wren, 2; Brown Creeper, 2; Tufted Titmouse, 1; Carolina Chickadee, 11; Golden-crowned Kinglet, 3. Total, 16 species, 169 individuals.—R. H. DEAN.

Mount Carmel, Ill.—December 22. Time, 8 A. M. to 11.30 A. M.; 2 P. M. to 4 P. M. Clear; ground bare; light west wind; temp., 24°. Duck, about 125 (flying, and too far away to make positive identification possible); Turkey Vulture, 1; Red-tailed Hawk, 1; Sparrow Hawk, 4; Hairy Woodpecker, 8; Downy Woodpecker, 11; Yellow-bellied Sapsucker, 1; Red-headed Woodpecker, 16; Red-bellied Woodpecker, 12; Flicker, 14; Prairie Horned Lark, 13; Blue Jay, 23; Crow, 35; Meadowlark, about 60; Goldfinch, 26; Tree Sparrow, 75; Junco, 65; Song Sparrow, 5; Cardinal, 22; Loggerhead Shrike, 2; Carolina Wren, 3; Bewick's Wren, 1; Brown Creeper, 3; White-breasted Nuthatch, 9; Tufted Titmouse, about 40; Chickadee, 22; Bluebird, 19. Total, 27 species, about 616 individuals. December 26, I saw one Mockingbird.—CHA. F. BRENNAN.

Mount Carmel, Ill.—Time, sunrise until 2 P. M. Clear, temp., 35°. List of birds visiting 'lunch counter' at house near center of town. Downy Woodpecker, 3; Hairy Woodpecker, 1; Red-bellied Woodpecker, 1; Flicker, 2; Blue Jay, 9; Junco, 1; Cardinal, 9; Carolina Wren, 2; Bewick's Wren, 2; White-breasted Nuthatch, 5; Black-capped Chickadee, 15; Carolina Chickadee, 4, and English Sparrows without number.—E. F. BEULL.

Kewanee, Ill.—Time, 7.30 A. M. to 11 A. M. Snow; wind south; temp., 20°. Downy Woodpecker, 2; Blue Jay, 3; Crow, 5; Pine Grosbeak, 8; Song Sparrow, 1; Junco, 25; Cardinal, 2; Carolina Chickadee, 16; White-breasted Nuthatch, 1. Total, 9 species, 63 individuals.—CLIFFORD CROSBY.

Rock Island, Ill.—Time, 10 A. M. to 12.40 P. M. Snowing, ground bare when snow began; wind southeast at 9 A. M., and northeast at 11.30, becoming a gale, with blinding clouds of snow; temp., 23°. Hairy Woodpecker, 2; Downy Woodpecker, 1; Red-headed Woodpecker, 2; Blue Jay, 10; Junco, 4; White-bellied Nuthatch, 3; Black-capped Chickadee, 9. Total, 7 species, 31 individuals.—BURTIS H. WILSON.

Peoria, Ill.—Time, 10 A. M. to 12 M. Snow-storm at times blinding, two inches of snow on ground; wind west, strong; temp., 20°. Downy Woodpecker, 3; Hairy Woodpecker, 3; Prairie Horned Lark, 2; Crow, 2; Blue Jay, 6; Junco, 21; Tree Sparrow, 52; Purple Finch, 4; Cardinal, 9; Carolina Wren, 1; Chickadee, 26; Tufted Titmouse, 2; White-breasted Nuthatch, 3. Total, 13 species, 134 individuals.—W. H. PACKARD and C. S. VAN DEUSEN.

Evanston, Ill.—Time, 9 A. M. to 1 P. M. Snowing very hard, blinding at times; wind west, varying to northwest; temp., 15°; eight inches of snow on ground. Result of five-mile tramp: Herring Gull (immature), 2; Old Squaw Duck, 100; Junco, 20; Redpoll, 1; Chickadee, 12. Total, 5 species, 135 individuals.—H. S. PEPOON.

Jefferson, Ashtabula County, Ohio.—Time, 8 A. M. to 12 M., and 2 to 4 P. M. A gray day, west wind or none; a little fine snow, fields mostly bare, frozen; woods with crusty snow; temp., 22°. Ruffed Grouse, 2; Barred Owl, 1; Great Horned Owl, 1; Hairy Woodpecker, 2; Downy Woodpecker, 4; Northern Pileated Woodpecker, 2; Red-bellied Woodpecker, 1; Northern Flicker, 1; Blue Jay, 2; Tree Sparrow, 8; White-breasted Nuthatch, 8; Red-breasted Nuthatch, 1; Chickadee, 26. Total, 13 species, 59 individuals.—E. F., and ROBERT J. SIM.

Cadiz, Ohio.—Time, 9 A. M. to 12.30 P. M. and 2.30 P. M. to 4.30 P. M. Partly cloudy; ground covered with snow, and ice in sheltered places only; wind southwest, moderate; temp., 35°. Distance walked (as registered by pedometer), 13 miles. Ruffed Grouse, 1; Mourning Dove, 1; Sharp-shinned Hawk, 1; Cooper's Hawk, 1; Red-tailed Hawk, 2; Sparrow Hawk, 2; Great Horned Owl, 1; Hairy Woodpecker, 4; Downy Woodpecker, 8; Red-bellied Woodpecker, 5; Blue Jay, 3; Tree Sparrow, 12; Junco, 22; Song Sparrow, 3; Cardinal, 9; Carolina Wren, 3; White-breasted Nuthatch, 15; Tufted Titmouse, 39; Chickadee, 28; Golden-crowned Kinglet, 1; Bluebird, 3. Total, 21 species, 164 individuals.—HARRY B. MCCONNELL.

McZena, Ohio.—December 24. Time, 8.50 A. M. to 1.50 P. M. Raining or snowing all the time; ground bare except remains of snowdrifts; wind southwest, strong; very disagreeable walking; temp., 39°. Bob-white, 10; Ruffed Grouse, 1; Mourning Dove, 24; Red-tailed Hawk, 1; Sparrow Hawk (?), 1; Hairy Woodpecker, 2; Downy Woodpecker, 6; Yellow-bellied Sapsucker, 1; Red-headed Woodpecker (heard); Red-bellied Woodpecker, 2; Northern Flicker, 1; Prairie Horned Lark, 2; Blue Jay, 10; American Goldfinch, 47; Tree Sparrow, 35; Junco, 24; Song Sparrow, 4; Cardinal, 6; Carolina Wren, 2; Brown Creeper (heard); White-breasted Nuthatch, 9; Red-breasted Nuthatch, 1; Tufted Titmouse, 18; Chickadee, 3; Golden-crowned Kinglet, 1. Total, 25 species, 213 individuals.—ZENO METCALF and C. L. METCALF.

Detroit River, Mich.—Time, 4 P. M. to 4.30 P. M. Snow-flurries, floating ice on river; wind northwest; temp., 26°. Herring Gull, 5; Ring-billed Gull, 3. Total, 2 species, 8 individuals.—ALEXANDER W. BLAIN, JR.

Port Sanilac, Mich.—December 26; time, 2.15 P. M. to 4.15 P. M. Clear; six to ten inches of snow; wind southwest, light; temp., 12°. Old Squaw (?), 18; Bob-white, 1; Crow, 160; Pine Grosbeak, 2; Snowflake, 120; Chickadee, 1. Total, 6 species, 302 individuals.—HARRIET W. THOMSON.

Appleton, Wis.—Time, 9.30 to 11.30 A. M. Cloudy, light snow falling, ground partly covered; wind northwest, light; temp. zero. Downy Woodpecker, 1; Prairie Horned Lark, 2; Crow, 2; Blue Jay, 3; Cedar Waxwing, 6; White-breasted Nuthatch, 2; Chickadee, 5. Total, 7 species, 21 individuals.—HENRY W. ABRAHAM.

Winneconne, Wis.—December 24; time, 9 A. M. to 12 M.; 1 P. M. to 3 P. M. Partly cloudy; two or three inches of snow; wind west, light; temp., 20°. Hairy Woodpecker, 2; Downy Woodpecker, 6; Blue Jay, 15; American Crow, 10; Red-winged Blackbird, 1; Evening Grosbeak, 10; American Goldfinch, 1; Snowflake, 200; Tree Sparrow, 20; White-breasted Nuthatch, 10; Chickadee, 10. Total, 11 species, 285 in-

dividuals. Pine Grosbeaks were seen in large numbers December 12, and a few December 19 and 26. Evening Grosbeaks have been very common since December 1. Brown Creepers, which are usually common all winter, I have been unable to find since November. The Red-winged Blackbird has been in the village all winter, although the temperature has been as low as 24° below zero and the ground covered with snow since November.—HENRY P. SEVERSON.

Decorah, Iowa.—Time, 10 A. M. to 2.30. Wind northwest, strong; temp., zero. Somewhat cloudy, though sun broke through occasionally. Great Horned Owl, 1; Red-tailed Hawk, 1; Ruffed Grouse, 7; Crow, 5; Blue Jay, 6; Hairy Woodpecker, 1; Goldfinch, 7; White-breasted Nuthatch, 1; Chickadee, 5. Total, 9 species, 34 individuals.—RETT E. OLMSTEAD.

Provo City, Utah.—Time, 10.30 A. M. to 4.30 P. M. Slightly hazy, half inch of snow; wind southwest, light; temp., 28° . Ducks, not identified, 3; Killdeer, 8; Goldfinch, 40; Marsh Hawk, 5; Western Red-tail, 1; Marsh Owl, 3; Dusky-horned Owl, 1; Downy Woodpecker, 2; Red-shafted Flicker, 15; Pallid-horned Lark, 46; Magpie, 37; American Raven, 2; Crow, 5; Piñon Jay, 2; Red-winged Blackbird, 203; Brewer Blackbird, 97; Western Evening Grosbeak, 12; House Finch, 30; Tree Sparrow, 40; Intermediate Junco, 63; Pink-sided Junco, 34; Song Sparrow (Subsp., one in song), 20; Bohemian Waxwing, 10; White-rumped Shrike, 2; Mountain Chickadee, 13. Total, 25 species, 694 individuals.—S. H. GOODWIN.

Napa, California.—Time, 11 A. M. to 3 P. M. Clear, ground bare; no wind; temp., 58° . American Bittern, 2; Killdeer, 1; Western Red-tail Hawk, 3; Belted Kingfisher, 1; Californian Woodpecker, 7; Red-shafted Flicker, 16; Anna's Humming-bird, 1; Say's Phoebe, 1; Black Phoebe, 5; California Jay, 29; American Crow, 5; Bicolored Blackbird, 4; Western Meadowlark, very numerous, 136 counted; Brewer's Blackbird, very numerous, 141 counted; House Finch, 11; Green-backed Goldfinch, 68; White-crowned (Gambel's) Sparrow, 6; Golden-crowned Sparrow, 15; Oregon Junco, 1; Thurber's Junco, 35; Samuel's Song Sparrow (heard), 1; Spurred Towhee, 8; Californian Towhee, 20; California Shrike, 5; Audubon's Warbler, 2; American Pipit, 32; Plain Titmouse, 4; California Bush-tit, 31; Ruby-crowned Kinglet, 10; Dwarf Hermit Thrush, 1; Western Robin, 4; Varied Thrush, 1; Western Bluebird, 2. Total, 33 species, 609 individuals (at minimum estimate).—MR. AND MRS. E. L. BICKFORD.

Cheney, Wash.—Time, 9.45 A. M. to 1.30 P. M. Foggy, ground bare; wind, east, light; temp., 26° . Batchelder Woodpecker, 1; Black-billed Magpie, 3; San Diego Red-wing, 34; Brewer Blackbird, 11; Redpoll, 29; Merrill Song Sparrow, 1; Slender-billed Nuthatch, 2; Oregon Chickadee, 21; Mountain Chickadee, 1. Total, 9 species, 102 individuals.—ROSWELL H. JOHNSON.

The Pine Grosbeak at Washington, D. C.

Since the matter on the preceding pages was put in type, we have received a number of interesting censuses which we should have been glad to print had they arrived in time for insertion in their proper places. We must make room, however, for a record of the Pine Grosbeak at Washington, D. C. (the most southern point from which the species has been recorded this season), by Mr. Thomas H. Levering, who writes that he satisfactorily identified three individuals of this species, a short distance outside the city limits, on November 26, 1903.



LONG-EARED OWL ON NEST WITH YOUNG

Copyright, by L. S. Horton

Photographed by L. S. Horton, at Hyde Park, N. Y., May 17, 1903

The nest was in a maple tree about twenty-five feet from the ground. The picture was secured by fastening the camera in an ash, about six feet away, attaching sixty feet of tubing, and on the return of the parent Owl, making a 20-second exposure. While the camera was being removed the Owls vigorously attacked the intruder, coming to within three feet of his head, or, alighting on a near-by limb, with ruffled feathers and drooping wings, uttering a loud, cat-like mewling.

For Teachers and Students

Bird-Lore's Advisory Council

WITH some slight alterations and additions, we reprint below the names and addresses of the ornithologists forming BIRD-LORE'S 'Advisory Council,' which were first published in BIRD-LORE for February, 1900.

To those of our readers who are not familiar with the objects of the Council, we may state that it was formed for the purpose of placing students in direct communication with an authority on the bird-life of the region in which they live, to whom they might appeal for information and advice in the many difficulties which beset the isolated worker.

The success of the plan during the four years which it has been in operation fully equals our expectations; and from both students and members of the Council we have had very gratifying assurances of the happy results attending our efforts to bring the specialist in touch with those who appreciate the opportunity to avail themselves of his wider experience. Not only do students appeal to the representative of their own State, but in planning trips to other parts of the country the advice of the resident Councilor as to the best localities for birds, etc., is often sought.

It is requested that all letters of inquiry sent to members of the Council be accompanied by a stamped and addressed envelope for use in replying.

NAMES AND ADDRESSES OF MEMBERS OF THE ADVISORY COUNCIL

UNITED STATES AND TERRITORIES

ALASKA.—Dr. C. Hart Merriam, Biological Survey, Dept. of Agr., Washington, D. C.

ARIZONA.—Herbert Brown, Yuma, Ariz.

CALIFORNIA.—Charles A. Keeler, Calif. Acad. Sciences, San Francisco, Calif.

COLORADO.—Dr. W. H. Bergtold, 1460 Clayton Ave., Denver, Col.

CONNECTICUT.—J. H. Sage, Portland, Conn.

DELAWARE.—C. J. Pennock, Kennett Square, Pa.

DISTRICT OF COLUMBIA.—Dr. C. W. Richmond, U. S. Nat'l Mus., Washington, D. C.

FLORIDA.—Frank M. Chapman, American Museum Natural History, New York City.

FLORIDA, Western.—R. W. Williams, Jr., Tallahassee, Fla.

GEORGIA.—Dr. Eugene Murphy, Augusta, Ga.

ILLINOIS, Northern.—B. T. Gault, Glen Ellyn, Ill.

ILLINOIS, Southern.—Robert Ridgway, U. S. National Museum, Washington, D. C.

INDIANA.—A. W. Butler, State House, Indianapolis, Ind.

INDIAN TERRITORY.—Prof. W. W. Cooke, Biological Survey, Dept. of Agr., Wash-
ington, D. C.

IOWA.—C. R. Keyes, Mt. Vernon, Ia.

KANSAS.—Prof. D. E. Lantz, Manhattan, Kan.

LOUISIANA.—Prof. George E. Beyer, Tulane University, New Orleans, La.

- MAINE.—O. W. Knight, Bangor, Me.
 MARYLAND.—F. C. Kirkwood, Box 364, Baltimore, Md.
 MASSACHUSETTS.—William Brewster, Cambridge, Mass.
 MICHIGAN.—Prof. W. B. Barrows, Agricultural College, Mich.
 MINNESOTA.—Dr. T. S. Roberts, 1603 Fourth avenue south, Minneapolis, Minn.
 MISSOURI.—O. Widmann, Old Orchard, Mo.
 MONTANA.—Prof. J. M. Elrod, University of Montana, Missoula, Mont.
 NEBRASKA.—Prof. E. H. Barbour, University of Nebraska, Lincoln, Neb.
 NEVADA.—Dr. A. K. Fisher, Biological Survey, Dept. of Agr., Washington, D. C.
 NEW HAMPSHIRE.—Prof. C. M. Weed, State Agricultural College, Durham, N. H.
 NEW JERSEY, Northern.—Frank M. Chapman, Am. Mus. Nat. History, New York City.
 NEW JERSEY, Southern.—Witmer Stone, Academy Natural Sciences, Philadelphia, Pa.
 NEW MEXICO.—Dr. A. K. Fisher, Biological Survey, Dept. of Agr., Washington, D. C.
 NEW YORK, Eastern.—Dr. A. K. Fisher, Biological Survey, Dept. of Agr., Washington, D. C.
 NEW YORK, Northern.—Egbert Bagg, 191 Genesee street, Utica, N. Y. [ton, D. C.
 NEW YORK, Western.—E. H. Eaton, Canandaigua, N. Y.
 NEW YORK, Long Island.—William Dutcher, 525 Manhattan ave., New York City.
 NORTH DAKOTA.—Prof. O. G. Libby, University, N. D.
 NORTH CAROLINA.—Prof. T. G. Pearson, Greensboro, N. C.
 OHIO.—Prof. Lynds Jones, Oberlin College, Oberlin, Ohio.
 OKLAHOMA.—Dr. A. K. Fisher, Biological Survey, Dept. of Agr., Washington, D. C.
 OREGON.—A. W. Anthony, 761½ Savier street, Portland, Ore.
 PENNSYLVANIA, Eastern.—Witmer Stone, Acad. Nat. Sciences, Philadelphia, Pa.
 PENNSYLVANIA, Western.—W. Clyde Todd, Carnegie Museum, Pittsburg, Pa.
 RHODE ISLAND.—J. M. Southwick, Museum Natural History, Roger Williams Park,
 SOUTH CAROLINA.—Dr. Eugene Murphy, Augusta, Ga. [Providence, R. I.
 TEXAS, Northern.—J. J. Carroll, Waco, Tex.
 TEXAS, Southeastern.—H. P. Attwater, Houston, Tex.
 UTAH.—Prof. Marcus E. Jones, Salt Lake City, Utah.
 VERMONT.—Prof. G. H. Perkins, Burlington, Vt.
 VIRGINIA.—Dr. W. C. Rives, 1723 I street, Washington, D. C.
 WASHINGTON.—Samuel F. Rathbun, Seattle, Wash.
 WEST VIRGINIA.—Dr. W. C. Rives, 1723 I street, Washington, D. C.
 WISCONSIN.—H. L. Ward, Public Museum, Milwaukee, Wis.
 WYOMING.—Dr. Mortimer Jesurun, Douglas, Wyo.

CANADA

- BRITISH COLUMBIA.—John Fannin, Provincial Museum, Victoria, B. C.
 MANITOBA.—Ernest Thompson Seton, 80 W. 40th street, New York City.
 NEW BRUNSWICK.—Montague Chamberlain, 45 Milk street, Boston, Mass.
 NOVA SCOTIA.—Harry Piers, Provincial Museum, Halifax, N. S.
 ONTARIO, Eastern.—James H. Fleming, 267 Rusholme Road, Toronto, Ont.
 ONTARIO, Western.—E. W. Saunders, London, Ont.
 QUEBEC.—E. D. Wintle, 189 St. James street, Montreal, Can.

MEXICO

- E. W. Nelson, Biological Survey, Department of Agriculture, Washington, D. C.

WEST INDIES

- C. B. Cory, 160 Boylston street, Boston, Mass.

The Migration of Warblers

SECOND PAPER

Compiled by Professor W. W. Cooke, Chiefly from Data
in the Biological Survey

With drawings* by LOUIS AGASSIZ FUERTES and BRUCE HORSFALL

PINE WARBLER

THE Pine Warbler seems to be the only United States Warbler that breeds at the southern limit of its range, so that its fall migration is a desertion of the northern part of its summer home and a concentration in the southern portion. The winter home is about one-third the area of the breeding range. The Pine Warbler is also the only Warbler breeding in the United States, no individuals of which regularly leave the United States in winter. The only records for this species outside of the United States are of a single, probably accidental, occurrence just over the border-line in Mexico, and of stragglers seen occasionally in the Bermudas.

SPRING MIGRATION

Atlantic Coast.—The species winters north to North Carolina and southern Illinois and the records of spring migration from this winter home are neither regular nor numerous, but the following notes on the arrival of the first birds will give a fair idea of the general movement:

Lynchburg, Va., March 30, 1901; Washington, D. C., average April 3; Renova, Pa., April 18, 1894; Englewood, N. J., April 18, 1900; Portland, Conn., average April 17; Durham, N. H., average April 26; Southwestern Maine, average April 20; Petitcodiac, N. B., May 19, 1887; Picou, N. S., May 19, 1894; North River, P. E. I., May 2, 1889.

Mississippi Valley.—Nashville, Tenn., March 24, 1902; Bowling Green, Ky., April 20, 1902; Central Indiana, average April 25; Southwestern Ontario, average May 4; Ottawa, Ont., average May 17; St. Louis, Mo., April 21, 1883, April 16, 1888; Southwestern Iowa, average April 27; Lanesboro, Minn., average May 2; Aweme, Man., May 21, 1902. The most northern known extension is to Fort Carlton, Saskatchewan.

FALL MIGRATION

The last Pine Warbler seen at Aweme, Man., in 1902, was on September 2; the average of the last seen in southwestern Maine, is September 25, and the latest October 4, 1896. The earliest migrants reach Washington, D. C., the last week in August, and the rear guard passes central Indiana and Washington between October 10 and 20.

*The drawings are one-half natural size

HOODED WARBLER

SPRING MIGRATION

The winter home of the Hooded Warbler is in Central America from Vera Cruz, Mex., to Panama, whence the species reaches the United States by a flight across the Gulf of Mexico, avoiding the West Indies and (for the most part) southern Florida.

PLACE	No. of years' record	Average date of spring arrival	Earliest date of spring arrival
<i>Atlantic Coast—</i>			
Northern Florida	6	March 28	March 19, 1885
Southeastern Georgia	3	April 4	March 29, 1902
Atlanta, Ga. (near)	9	April 10	April 3, 1902
Raleigh, N. C.	14	April 18	April 10, 1893
Asheville, N. C. (near)	7	April 19	April 12, 1893
Lynchburg, Va.	4	April 29	April 23, 1900
West Virginia	7	April 17	April 20, 1891
Washington, D. C.	3	May 2	May 1, 1903
Englewood, N. J.	7	May 4	May 2, 1897
Renova, Pa.	4	May 13	May 10, 1901
<i>Mississippi Valley—</i>			
New Orleans, La.	10	March 22	March 13, 1897
Southern Mississippi	3	March 30	March 22, 1902
Helena, Ark.	7	April 11	April 3, 1898
Eubank, Ky.	7	April 14	April 8, 1890
St. Louis, Mo.	6	April 23	April 17, 1883
Central Indiana	6	April 29	
Keokuk, Ia.	5	May 10	May 5, 1898

The Hooded Warbler has also been taken at Chicago, Ill., April 28, 1884, and May 3, 1895; at Grinnell, Ia., May 18, 1888, and once in southern Minnesota. The Texas dates are at Refugio county, March 30, 1898, March 13, 1899; San Antonio, March 31, 1890, April 7, 1894; Bee county, April 3, 1886, April 10, 1887.

FALL MIGRATION

The fall migration is hardly in full swing before the latter part of August. The earliest dates at Key West, Fla., are August 30, 1887, and August 19, 1889; at Truxillo, Honduras, September 26, 1887, and in southeastern Nicaragua, September 24, 1892. The bulk leave the northern breeding-grounds by the middle of September and the last have been noted at Renova, Pa., September 26, 1900, October 13, 1903; Beaver, Pa., September 25, 1890, October 3, 1891; Englewood, N. J., September 15, 1886; Washington, D. C., September 15, 1890; French Creek, W. Va., September 29, 1892; Lynchburg, Va., October 10, 1899; Raleigh, N. C., October 1, 1891; Asheville, N. C., September 20, 1890; Sedam, Ind., October 5, 1893; Brownville, Ind., October 20, 1884; Eubank, Ky., September 29, 1889; New Orleans, La., October 19, 1895 and 1897, October



1. PINE WARBLER, ADULT MALE.
3. RED-FACED WARBLER, ADULT MALE.

2. PINE WARBLER, FEMALE.
4. RED-FACED WARBLER, FEMALE.

25, 1899. The latest record for the United States is the — probably accidental — occurrence of this species at Germantown, Pa., November 19, 1887.

CHAT

The summer home of the Chat extends from the Atlantic to the Pacific. The species has been separated into an eastern and a western form, and in the following tables, the notes for Colorado and the Pacific Coast refer to the western form (*Icteria virens longicauda*), the rest to the eastern (*Icteria virens*).

SPRING MIGRATION

PLACE	No. of years' record	Average date of spring arrival	Earliest date of spring arrival
<i>Atlantic Coast—</i>			
Savannah, Ga.	3	April 17	April 14, 1902
Atlanta, Ga. (near)	8	April 21	April 16, 1894, 1895
Southeastern South Carolina	5	April 25	April 19, 1887
Raleigh, N. C.	16	April 23	April 18, 1888
Asheville, N. C. (near)	6	April 26	April 21, 1891
Variety Mills, Va.	17	April 29	April 18, 1896
White Sulphur Springs, W. Va.	5	May 2	April 29, 1897
French Creek, W. Va.	5	May 1	April 26, 1893
Washington, D. C.	7	May 1	April 29, 1888
Beaver, Pa.	4	May 2	April 29, 1890
Berwin, Pa.	5	May 9	May 6, 1902
Renova, Pa.	8	May 8	May 5, 1894, 1895
Englewood, N. J.	7	May 9	May 5, 1886
Portland, Conn.	4	May 13	May 8, 1894
Cambridge, Mass. . . . .	..	..	May 15
<i>Mississippi Valley—</i>			
New Orleans, La.	5	April 19	April 13, 1899
Southern Mississippi	5	April 18	April 17, 1890
Helena, Ark.	7	April 22	April 16, 1896
Eubank, Ky.	11	April 23	April 19, 1889
St. Louis, Mo.	6	April 24	April 21, 1885
Brookville, Ind.	6	April 30	April 26, 1886
Petersburg, Mich. . . . .	..	..	May 3, 1894
Chicago, Ill.	3	May 16	May 10, 1897
Rockford, Ill.	5	May 17	May 12, 1889
Keokuk, Ia.	10	May 3	April 28, 1896
Hillsboro, Ia.	5	May 1	April 26, 1897
Indianola, Ia.	4	May 7	May 4, 1902
Grinnell, Ia.	5	May 6	May 1, 1887
Iowa City, Ia.	5	May 5	May 2, 1891
<i>Western United States—</i>			
Fort Brown, Texas	4	March 30	March 26
San Antonio, Texas	5	April 10	April 5, 1890
Northern Texas	6	April 19	April 16, 1886
Onaga, Kans.	11	May 4	April 26, 1896
Southeastern Nebraska	7	May 6	April 29, 1886
Denver, Colo. . . . .	..	May 2	April 20, 1897
Southern California	4	April 18	April 5, 1885
Central California	5	April 22	April 14, 1885
Oregon	5	May 14	May 4
Chelan, Wash. . . . .	..	..	May 28, 1896

FALL MIGRATION

The Chat migrates early. It deserts the northern limit of its range in August and by the first of September few are left north of 39° latitude. Some dates of the last noted are at Englewood, N. J., August 29, 1885; Renova, Pa., September 21, 1897; Berwyn, Pa., September 2, 1898; Washington, D. C., September 19, 1886; Raleigh, N. C., September 1, 1888; Brookville, Ind., September 7, 1886; Bicknell, Ind., September 27, 1894; Chicago, Ill., August 16, 1895; Hillsboro, Ia., September 4, 1898; Onaga, Kan., September 21, 1897; New Orleans, La., September 12, 1899; Bonham, Tex., September 20, 1889.

RED-FACED WARBLER

This species ranges from the highlands of Guatemala northward to the mountains of New Mexico and southern Arizona. No migration notes are available.

A Letter from Professor Cooke

Editor Bird-Lore:

Noticing the article in the last number of BIRD-LORE on the migration of the Redstart, one of your subscribers has kindly sent me the dates of arrival of this bird as noted by him for *twenty-five* consecutive years. I am not only grateful to him, but I shall greatly appreciate any and all Warbler migration notes that your readers may contribute.

WELLS W. COOKE.

Biological Survey, Washington, D. C.

Bird-Lore's Colored Plates

We have received a great many letters cordially praising the first colored plates in BIRD-LORE's series of illustrations of the North American Warblers. It has been quite impossible for us to acknowledge their receipt, but we assure their writers that they are none the less welcome and that we expect the remaining plates of the series will be even better than those which have already appeared.

The Audubon Calendar for 1904

The Calendar for 1904 issued by the Massachusetts Audubon Society is by far the most attractive of the series thus far prepared by this society. It figures six species of Warblers, and the reverse of each plate is occupied with descriptive text.

The calendar may be procured from the Massachusetts Society at the Boston Society of Natural History.

For Young Observers

Notes on Winter Birds

PRIZE ESSAY

By ORREN W. TURNER (aged 14 years), Tarboro, N. C.

ONE evening on Friday, December the eleventh, while strolling along on the edge of a wood, my attention was attracted by a flutter almost under my feet and as I looked down a little Chipping Sparrow which I had nearly stepped on, flew up. But he did not fly far, however, for I saw he was wounded. He tried to alight on a limb but he was so weak that he could not sit upon the limb so he had to fly on the ground.

He made no resistance when I tried to catch him. When I began to examine him to find his wound, he began to scream and flutter so I sat down beside a stump so that I could examine him gently.

His screams had attracted many birds, for thirteen Partridges (Bobwhites) came down beside the fence, and there were seven Jays, four Brown Thrashers, eleven Towhees, sixteen Chipping Sparrows and about twenty-five White-throated Sparrows or Peabody Birds, all of which began to scream and scold at me.

I noticed a Red-headed Woodpecker which kept flying around me as if trying to defend the stump or the Sparrow.

To my surprise I found a large dog-tick which had taken up his winter quarters on Chippy's neck and was eating his life away. When I pulled the tick off, Chippy gave a cry and fainted away and I thought that he was dead, but he slowly recovered.

While I was sitting beside the stump, I noticed that the latter had many holes in it and one especially which was larger than the others, attracted my attention. The hole was about as big as a dollar and it had a piece of oak bark stuck in it.

I thought I would examine the hole so I set Chippy under my hat. By this time all the birds had quit the trees near me, but the Woodpecker never ceased to make attacks at me. In the hole I found 58 acorns and two hickorys so I searched the old stump over and in all I found 136 acorns and three hickorys. Some of the acorns just fitted the holes and were pegged tightly with pieces of bark. I put all of the acorns back just as I found them and carried Chippy home.

I gave him some suet and oats and crumbs of bread and wrapped him up in some cotton. In two days Chippy could fly a little way but I thought I would keep him until he was perfectly strong.

On December 14, I returned to the old stump beside the wood and to

my surprise not an acorn or hickory could be found ! I was very sorry to think that I had made the Woodpecker move his acorns which he had stored for winter. But three days later I returned to the stump and the Woodpecker had replaced 63 of the acorns. About two days after I returned to find 103 acorns and one hickory. I have found many stumps with acorns in them but never before have I found so many in one stump. I did not know that Red-heads ate hickorys but I think that he carried them there for they were mixed in with the acorns.

As for Chippy, he is flying around with the English Sparrows but he knows where to go when he is hungry and sleepy. Why he just goes to his box where it is filled with oats, crumbs, suet and grass - seed. One morning I set the box out on the piazza and Chippy brought an English Sparrow with him to dine but as Mr. Sparrow was afraid to go in that slab cage, Chippy brought him some crumbs and oats outside.

He is now well and strong and I hope he will continue to stay with me.

The Prize Essay

The prize for the best article on winter bird-life by a young observer of fourteen years or under, has been awarded to Master Orren W. Turner, of Tarboro, North Carolina, whose essay is printed in this number of BIRD-LORE.

A Prize Offered

In order to encourage careful observation and description on the part of our readers of fourteen years and under, we offer three prizes for the best four- or five-hundred-word article on the bird-life of February. Let each Young Observer keep a record of what he sees during this month and on March 1 write his article and send it to the editor at Englewood, N. J.

The first prize offered is a book or books to the value of two dollars and a half; the second, a book or books to the value of one dollar and a half, and the third prize is a BIRD-LORE Bird-Chart and a Field Identification Blank.



Book News and Reviews

KEY TO NORTH AMERICAN BIRDS . . . with which are incorporated General Ornithology: An Outline of the Structure and Classification of Birds; and Field Ornithology, a Manual of Collecting, Preparing and Preserving Birds. Fifth Edition, entirely revised. By ELLIOTT COUES. Boston: Dana Estes & Co., 1903. Two volumes, royal 8vo. xli+1152 pages, 747 black and white illustrations in the text two full-page colored plates.

The fifth edition of this great work appears in two volumes, but otherwise resembles in form the second to fourth editions. The Historical Preface and Part I, Field Ornithology, are evidently printed from the plates used in former editions; Part II, General Ornithology, is unchanged, save for the addition of some material chiefly in relation to the colors of feathers (pp. 88, 92), in which we regret to see that the now exploded theory of repigmentation of a fully grown feather is given credence.

We cannot believe that Dr. Coues intended this part of the Key to go to press without at least some reference to the numerous important contributions to our knowledge of avian anatomy which have been made since the text originally appeared in 1884.

It is in Part III, Systematic Synopsis of North American Birds, that the principal changes from the old Key will be found. This appears to have been recast to conform in the main to the nomenclature of the A. O. U. 'Check-List', but the order of arrangement differs, the Thrushes standing at the beginning instead of at the end of the list.

There is additional general matter here, as well as descriptions of forms not included in earlier editions, and to these descriptions are usually added the more important references concerning the bird under consideration—an exceedingly helpful feature. There are also more common names given; but where these are not in use, as they are or certain wild-fowl, for example, it would seem more desirable to ignore them

and give only the name appearing in the A. O. U. 'Check-List'. The latter, it may be noted, is often wanting, and we miss also the A. O. U. serial numbers, the absence of which will prove an inconvenience in a variety of ways.

It is in the illustrations that the new Key will be found to differ most strikingly from its predecessors. Not only are many of those which have seen service in numerous books very properly discarded, but a great number of new cuts have been introduced. These are, in the main, by Mr. Fierstein, who made them especially for this work. It is needless to say that they are spirited and life-like pictures of the birds they portray, and we wish we could say that they had been adequately reproduced; but in 'silhouetting' or 'routing out' the half-tone plate the outline of the bird has often been marred, while the attempt to use half-tones in the text on a soft-finish paper has met with the usual failure. Comparison of cuts from the old Nichols wood-engravings, with their clear gradations and satisfactory definition, with these muddy, clogged half-tone prints illustrates only too forcibly how impossible it is to get satisfactory results from half-tones on anything but coated or calendared paper.

The task of seeing these volumes through the press fell to the lot of Mr. J. A. Farley, and in view of the numerous difficulties and complications which, of necessity, are encountered in editing a posthumously published manuscript, it must be said that he has done his work remarkably well. Slips there are here and there, as, for example, the captions to cuts Nos. 461 and 684, in which the Sharp-shinned Hawk and Marbled Murrelet are called respectively "Pigeon Hawk" and "American Herring Gull, Young." But these are of minor importance when one considers the opportunities for error in printing a work of this kind. Mr. Farley adds a table of the additions to the list of North American

Putnam: This is going to go first rate; I am much pleased with the out look. But better send me hereafter in galley-slips first; ornithology is progressive, and though I took down many or most doubtful species in the Wild. other corrections may well be expedient. For instance in the *cig. & mouss. to var. 3 "species"* I formerly allowed to stand with doubt. It will save trouble & expense to give me proofs before smacking up. **SYSTEMATIC SYNOPSIS**
The "Key" has at last got into ^{or} admirable shape!

NORTH AMERICAN BIRDS.*

Subclass I. AVES AËRÆÆ, or INSESSORES.

AËRIAL BIRDS, or PERCHERS.

The first and highest one of three primary divisions of the class *Aves*, embracing all existing birds down to the *Gallinæ*.

The knee and part of the thigh are free from the body, and the leg is almost always feathered to or beyond the tibio-tarsal joint. With rare exceptions, the toes are all on the same level, and touch the support throughout; being thus fitted for grasping or *perching*. In other respects the members of this great group are too various to be defined by external characters, unless it be negatively, in the absence of the features of the other two. They are *Altrices*. They are now usually divided into five Orders, of which the first is the *grouse*.

Order PASSERES.† Perchers Proper.

The feet are perfectly adapted for grasping by the length and low insertion of the hind toe, great power of opposing which to the front toes, and great mobility of which, are secured by separation of its principal muscle from that that bends the other toes collectively. The hind toe is always present, and never turned for-

* North of the present Mexican Boundary; inclusive of Lower California, exclusive of Greenland.

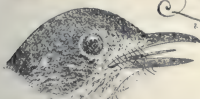
† As commonly received, without recognizing, however, the fossil *Archæopteryx* (see Introduction) as a mesozoic bird, which probably alone represents a primary group *Saururus*, admitting which, some high authorities then divide all existing birds into two other primary groups, *Psittacæ* (Psittacines), in which the osseum has no keel, and *Columbæ*, embracing all other birds. On this basis, our *Aves* *passeres* would represent a group of less value than a sub-class, and I decline to be understood as using this term provisionally, in a conventional sense.

Reproduction (slightly reduced) of Dr. Coues' proof of page 69 of the first (1872) edition of his 'Key to North American Birds.' From the original in the possession of Dr. J. A. Allen.

If you think it will save anything I will go over the *Ms.* again, if you send it to me

TURDIDÆ. THRUSHES. Gen. 1.

whitish; eyelids, postocular stripes, 2 wing-bars and much edging of quills, orange-brown; bill dark, feet pale; ♀ and young, duller, browner, pectoral bar obscure, etc. Size of the last. Pacific slopes, N. Am.: accidental in



Mass., N. J. and Long Island. AUD., iii, 22, pl. 143; BO., 219, NÆVIUS.

♂ Spotted, not banded, below (Subgenus *Hylocichla*).

† Upper parts not uniform in color.*

‡ Upper parts tawny, shading into olive on rump.

Wood Thrush, natural size.

FIG. 11.

Wood Thrush. Under parts white, barely or not buff-tinted, marked with large distinct dusky spots, middle of throat and belly only immaculate; bill dusky and yellowish; legs flesh-color; 7-8 long; wing 4-4½, tail 3-3½. Eastern United States. WILS., i, 35, pl. 2; NUTT., i, 343; AUD., iii, 24, pl. 144; BO., 212, MUSTELINUS.

nest in bushes and low trees; eggs plain

Upper parts olive, shading into rufous on rump and tail.

Dele leads

Hermit Thrush. Under parts white, with slight buffy tint anteriorly and olive shade on sides, breast and sides of throat thickly marked with large distinct dusky spots. About 7 long; wing 3½, tail 2½. Eastern (and Arctic) North America. WILS., v, 95, but not his fig. 2 of pl. 45; NUTT., i, 346; AUD., iii, 29, pl. 146; BO., 212, PALLAS.

bill dusky + yellowish; legs pale

Var. *auduboni*, is entirely similar, rather larger. South-west United States.

Into Mexico. BO., Rev. 16.

Var. *nanus*, is entirely similar, rather smaller. Rocky Mountains to Mexico. AUD., iii, 32, pl. 147; BO., 223; Rev. 16; COOP., 4.

† Upper parts uniform in color.*

‡ Upper parts olive.

Olive-backed Thrush. Under parts white, olive-shaded on sides, the fore parts and sides of head and eyelids strongly tinged with buff, the breast thickly marked with large dusky-olive spots. 6½-7½ long; wing 3½-4, tail 2½-3. North America, except perhaps south-west U. S. WILS., v, pl. 45, f. 2, but not his description on p. 95; BO., 216, SWAINSON.

Var. *atropa*. Similar; but without any buffy tint about head, nor yellowish ring around eye; averaging a trifle larger, with longer, slenderer bill. Much the same distribution. A species neglected by some. BO., 217, and Rev. 21.

Upper parts tawny.

nest in bushes; eggs speckled

Red is here

but larger, feathers mostly rust; eggs similar

nest in small trees

* Very young birds of all the species of *Hylocichla* are spotted above, but their spots disappear the first autumn, and the ground color is always as noted.

var. *usitata*. Similar, but with the upper parts slightly suffused with tawny, and the spots below smaller, fewer, and paler; thus approximating to the following species, *Pacificus* Coues, U. S. NUTT., 2d ed. 1, 400; BO., 215; COOP., 5. nest and eggs, however, in same manner.

Reproduction (slightly reduced) of Dr. Coues' proof of page 72 of the first (1872) edition of his 'Key to North American Birds.' From the original in the possession of Dr. J. A. Allen.

birds and changes in nomenclature which have been made since Dr. Coues' death in 1899.

It is unnecessary for us to offer general comment on a work which we have before characterized as, beyond comparison, "the best known on general and systematic ornithology ever published," and we have aimed here only to note the differences between the last and the preceding editions.—F. M. C.

BIRDS OF A MARYLAND FARM; A LOCAL STUDY OF ECONOMIC ORNITHOLOGY. By SYLVESTER D. JUDD, Ph.D. Bull. No. 17, Div. Biological Survey, U. S. Dep't of Agriculture, Washington, 1902. 116 pages, 17 plates, 41 text-cuts.

Dr. Judd's study of the food of birds on a farm of 230 acres, of which 150 were under cultivation, extended over a period of seven years and is of unusual value, not alone because of the results obtained, but also as an admirable object-lesson in the methods of investigation employed by the modern economic ornithologist. It has, too, much ecologic interest purely as a contribution to our knowledge of the economic relations of birds to a definite environment. It may well stand as a model for work of this kind, and an examination of it will suggest numerous lines of observation to students of the food of birds. Particularly, we would commend Dr. Judd's fairness of mind. He does not appear as a special pleader for this bird or that, but evidently presents his conclusions without attempting to defend one bird and condemn another, influenced by a preconceived fondness or prejudice for the species in question.—F. M. C.

TWO LITTLE SAVAGES: BEING THE ADVENTURES OF TWO BOYS WHO LIVED AS INDIANS AND WHAT THEY LEARNED. With over 300 drawings. By ERNEST THOMPSON SETON. 1903. Doubleday, Page & Co., New York. 12mo. 552 pages.

This is not a 'bird book,' although it has much in it about birds, but it teaches the lesson of the beauty of life out-of-doors, of which the birds, after all, are only a part, even if a very important one; and it is, therefore, a book which should be considered

by every one who would lead the world to that well of pure delight, of which the author writes so briefly but so eloquently in his two-line preface.

Into this attractive volume Mr. Seton has crowded the results of his years of experience in the woods. It is, we believe, no secret that the story is largely autobiographical, and in reading it one realizes how well its writer's training has fitted him for the work he has made his own.—F. M. C.

CATALOGUE OF CANADIAN BIRDS. Part II. Birds of Prey, Woodpeckers, Flycatchers, Crows, Jays and Blackbirds. By JOHN MACOUN, M.A., F.R.S.C. Geological Survey of Canada. Ottawa, 1903. 8vo. Pages i-iv + 219-413.

THE BIRDS OF OHIO. By LYNDS JONES, M.Sc. (Oberlin College). Special Paper, No. 6. Ohio State Academy of Science. 1903. 8vo. 241 pages, 1 map.

THE BIRDS OF WISCONSIN. By L. KUMLIEN and N. HOLLISTER. Bull. Wis. Nat. Hist. Soc., Vol. II (new series), Nos. 1, 2 and 3. Published with the Co-operation of the Milwaukee Public Museum. 1903. 8vo. 143 pages, 8 half-tone plates.

THE BIRDS OF FERGUS COUNTY, MONTANA. By P. M. SILLOWAY. Bull. No. 1, Fergus County Free High School, Lewistown, Mont. 1903. 8vo. 77 pages, 17 half-tone plates.

Here are four noteworthy contributions to the literature of faunal ornithology. The scope of Mr. Macoun's work has been outlined in our notice of Part I (BIRD-LORE, II, 125), and it is necessary only to say here that the high standard of the first volume has been maintained. This important publication will be concluded with Part III, which is promised for the coming fall.

Professor Jones has been so long in close touch with the birds and bird students of Ohio, and is so directly responsible for much of the interest in ornithology in that state, that assuredly no one is better fitted than he to write on the status of Ohio birds. It is, consequently, almost needless to say that his fully annotated list is thoroughly satisfactory and workmanlike. It enumerates 322 species and subspecies as "actually recorded in the state."

The list of the late Mr. Kumlien and of Mr. Hollister includes 357 species and subspecies, with more or less extended annotations concerning their manner of occurrence and dates of migration. It should prove a most serviceable hand-list of Wisconsin birds.

Mr. Silloway's 'Birds of Fergus County, Montana,' is, in fact, a handbook of the birds of this region. It gives information in regard to the distribution, migration and nesting of the birds treated, as well as brief descriptions which should permit one to identify them. Copies of this useful publication, we note, may be obtained by application to the author at the Fergus County High School, of Lewistown, Montana. The trustees of this institution are thus to be congratulated not only on publishing an excellent treatise but on making it available to the public without charge.—F. M. C.

The Ornithological Magazines

THE CONDOR.—With the November-December number 'The Condor' completes its fifth year and, with one exception, the largest volume in its history. The leading article is by E. W. Nelson and contains an interesting series of 'Notes on the Mexican Cormorant,' made chiefly in the vicinity of Lake Chapala, Mexico, and illustrated with five half-tones. This Cormorant seems to be chiefly a fresh- or brackish-water species and ranges from Central America north to southern Illinois. A suggestive paper on 'The Use of Sentinels by Valley Quail,' by Williams, shows how much still remains to be learned about the habits of comparatively well-known birds. 'Notes on the Texan Jay' are contributed by Howard Lacy, and on 'The Rocky Mountain Screech Owl' by W. L. Burnett.

Local lists are represented by the concluding part of Osgood's 'List of Birds Observed in Cochise County, Arizona,' and Anderson's and Jenkin's 'List of Birds from the Santa Cruz Mts., California.' The list of birds peculiar to Santa Cruz Island is increased by the description of a new species, *Vireo mailliardorum*, Grinnell. Two pages of 'Correspondence' are devoted to a continuance of the discussion of the bonding

feature of the A. O. U. Model law by Dr. J. A. Allen, E. W. Nelson and the Editor. An improvement has been made in the index, which has been consecutively paged and prepared for binding at the end of the volume, where it properly belongs; but no table of contents or list of illustrations is furnished with the title-page,—an omission which we hope to see supplied in future volumes.—T. S. P.

WILSON BULLETIN.—With Number 45 the 'Wilson Bulletin' completes the fifteenth volume of a series which began soon after the organization of the Wilson Chapter in 1888, and which includes a large amount of valuable ornithological material.

In an editorial *résumé* the editor touches on the value and pleasures of field work, and suggests that any one having even a limited chance for observation may make a careful study of a few birds. He very properly expresses a wish that in these studies the birds will be considered as such, and not as beings possessed of human attributes and motives. This desire for reform is most welcome and timely, judging from the increasing number of misguided or designing enthusiasts who are inclined to discover human characteristics in birds and mammals and who are filling the book-shelves with misleading trash at the expense of trustworthy and valuable material.

Lynds Jones, under the title of 'A Bob-white Covey,' gives an interesting and valuable account of the formation of the roosting circle of a covey of Bob-whites as described by Robert J. Sim, of Jefferson, Ohio. In 'A List of Birds Seen in Franconia, N. H., and Vicinity During August and September 1903,' H. E. Porter and others noted 84 species of birds, 11 of which were not mentioned by Faxon and Allen in their paper in 'The Auk' of 1888. These observers, however, recorded 13 species not found by the party in 1903.

Besides a number of general notes, this issue of the 'Bulletin' contains the following short papers: 'Bachman Sparrow,' selected from Dawson's 'Birds of Ohio,' 'A December Hermit Thrush,' and 'Black Skimmers at Woods Holl, Mass.,' by Lynds Jones.—A. K. F.

Bird-Lore

A Bi-monthly Magazine

Devoted to the Study and Protection of Birds
OFFICIAL ORGAN OF THE AUDUBON SOCIETIES

Edited by FRANK M. CHAPMAN

Published by THE MACMILLAN COMPANY

Vol. VI Published February 1, 1904 No. 1

SUBSCRIPTION RATES

Price in the United States, Canada and Mexico twenty cents a number, one dollar a year, postage paid.

Subscriptions may be sent to the Publishers, at Harrisburg, Pennsylvania, or 66 Fifth avenue, New York City.

Price in all countries in the International Postal Union, twenty-five cents a number, one dollar and a quarter a year, postage paid.

COPYRIGHTED, 1904, BY FRANK M. CHAPMAN

Bird-Lore's Motto:

A Bird in the Bush is Worth Two in the Hand

A Question of the Day

INTEREST in animals is now popularly aroused by emphasizing our kinship with the lower forms of life, and the manifestations of animal instinct and of human intelligence often so closely resemble one another that it requires an effort on the part of the sympathetic but conscientious student to avoid using his own mind as a standard when attempting to interpret the meaning of an animal's actions.

In an increasing number of magazine articles and so-called 'nature' books, the effort to resist the temptation to write of animals as though they were endowed with the mind of man entire has clearly not been made, and the result is a rapidly growing mass of natural-history fiction presented in the guise of fact.

While the writers of this class no doubt awaken much interest in animal life, it is not a healthy interest. It is based on false premises and unwarranted assumptions. Lacking the special training without which even the best observers are not justified in drawing conclusions, these writers enter the difficult field of comparative psychology and in almost every paragraph confidently put forward, as uncontrovertible facts, statements about the habits of animals for

which there is absolutely no psychological foundation.

Throughout the world of science today, trained minds are patiently and skilfully studying the animal mind. Thousands of minute exhaustive experiments are being made. Conclusions are drawn with the utmost caution and are presented to the world tentatively for criticism and as representing only a stage in our investigations of the development of mind in animals.

Compare the careful studies and conservative statements of those fully equipped investigators with the crude observations, vague memories and unsubstantiated anecdotes of the various campers, hermits, paddlers *et al* who are now posing as authorities on the habits of our birds and animals and the nature of their mental attributes. As a matter of fact, these pseudo-scientists are about as well prepared to discuss the problems of comparative psychology as the average kodaker is to explain the chemistry and optics of photography.

From the scientist's point of view, the greatest harm wrought by this unnatural history is not only the wholly wrong impression it conveys of our exact knowledge of the animal mind, but the consequently misguided efforts of students who have opportunity to make observations which might be of great value. Accepting as true the humanization of the animal, they study its actions as they would those of a fellow-man, and unconsciously attribute to them a significance they are not *known* to possess.

The science of comparative psychology is as yet in its infancy. It has need of the services of every competent observer. Particularly in our study of the life-histories of birds do we need an immense amount of data before we may hope to penetrate the workings of the bird-mind, and say with some approach of confidence, "This is instinct," or "This is intelligence." Do not, therefore, let us rush ahead, led astray by imaginative even if honest writers, but let us be sure of one foothold before we make the next step.

The *true* story of the activities of the animal mind will be found to be marvelous enough when once we know it.

The Audubon Societies

*"You cannot with a scalpel find the poet's soul,
Nor yet the wild bird's song."*

Edited by MRS. MABEL OSGOOD WRIGHT and WILLIAM DUTCHER

Communications relating to the work of the Audubon and other Bird Protective Societies should be addressed to Mrs. Wright, at Fairfield, Conn. Reports, etc., designed for this department should be sent at least one month prior to the date of publication.

DIRECTORY OF STATE AUDUBON SOCIETIES

With names and addresses of their Secretaries

California.....	MRS. GEORGE S. GAY, Redlands.
Colorado.....	MRS. MARTHA A. SHUTE, Denver.
Connecticut.....	MRS. WILLIAM BROWN GLOVER, Fairfield.
Delaware.....	MRS. WM. S. HILLES, Delamore Place, Wilmington.
District of Columbia.....	MRS. JOHN DEWHURST PATTEN, 2212 R street, Washington.
Florida.....	MRS. I. VANDERPOOL, Maitland.
Georgia.....	PROFESSOR H. N. STARNES, of Experiment.
Illinois.....	MISS MARY DRUMMOND, 208 West street, Wheaton.
Indiana.....	W. W. WOOLEN, Indianapolis.
Iowa.....	MRS. L. E. FELT, Keokuk.
Kentucky.....	MISS JULIET O. ALVES, Henderson.
Louisiana.....	MISS ANITA PRING, 1449 Arabella St., New Orleans.
Maine.....	MRS. C. B. TUTTLE, Fairfield.
Maryland.....	MISS ANNE WESTON WHITNEY, 715 St. Paul street, Baltimore.
Massachusetts.....	MISS HARRIET E. RICHARDS, care Boston Society of Natural History, Boston.
Minnesota.....	MISS SARAH L. PUTNAM, 229 8th ave., S. E., Minneapolis.
Missouri.....	AUGUST REESE, 2516 North Fourteenth street, St. Louis.
Nebraska.....	MISS JOY HIGGINS, 544 South 30th street, Omaha.
New Hampshire.....	MRS. F. W. BATCHELDER, Manchester.
New Jersey.....	MISS JULIA SCRIBNER, 510 E. Front street, Plainfield, N. J.
New York.....	MISS EMMA H. LOCKWOOD, 243 West Seventy-fifth street, New York City.
North Carolina.....	T. GILBERT PEARSON, Greensboro.
Ohio.....	MRS. D. Z. MCCLELLAND, 820 West Ninth street, Cincinnati.
Oklahoma.....	MRS. ADELIA HOLCOMB, Enid.
Oregon.....	MISS GERTRUDE METCALFE, 634 Williams ave., Portland.
Pennsylvania.....	MRS. EDWARD ROBINS, 114 South Twenty-first street, Philadelphia.
Rhode Island.....	MARTHA R. CLARKE, 89 Brown street, Providence.
South Carolina.....	MISS S. A. SMYTH, Legare street, Charleston.
Tennessee.....	MRS. C. C. CONNER, Ripley.
Vermont.....	MRS. FLETCHER K. BARROWS, Brattleboro.
Virginia.....	MRS. J. C. PLANT, Glenclaryn.
Wisconsin.....	MRS. REUBEN G. THWAITES, 260 Langdon street, Madison.
Wyoming.....	MRS. N. R. DAVIS, Cheyenne.

"Keep on Pedaling!"

Ten years ago, when the world and his wife were striving to master the vacillating bicycle, the constant cry of the perspiring instructor who ran beside was, "Keep on pedaling; if you stop you're a goner!"

This concise if inelegant advice applies to many things besides wheeling—and especially to the work of bird protection. At the present moment thirty-odd Audubon Societies are more or less securely mounted and started upon the right road; but if, in addition to "keeping on pedaling," they

do not look both right and left as well as ahead, an upset will speedily follow.

We are all prone to overestimate the importance of initial effort, whether it be in mastering a horse, a wheel, or in organizing a new movement. Of course, in order to have a coöperative society there must be organization, but the organization should be regarded only as a platform upon which the members may stand united to work intelligently for reaching an end, not as the end itself.

When you often hear some one say, "Oh, yes, birds are being protected in our state,

there is nothing to worry about there; we have just started an Audubon Society," as if a declaration was all that was necessary, you will understand the necessity of the injunction to "keep on pedaling."

As the societies have, for their motto, The Protection of Birds, so, if they would work with any hope of success, they must stand upon one platform, Public Education, and public education is something that is as endless as the race itself. It is true that public education in a general sense has obtained long enough in this country to be regarded as an inalienable right; but until the lesson of protection of all forms of harmless and useful animal life is so well learned as to become part of the heredity of coming generations, any relaxing in vigilance in the different branches of protection will be fatal to the whole cause; and for this reason every society should have special committees ever on the watch for pitfalls.

In every community there are people, both men and women, equally interested in the cause of protection, of widely different intellectual gifts and degrees of tact; upon the wise sifting and classifying of these may depend the whole success of the local organization.

The committee on Bird Study in Schools should be composed of people of both sexes who not only have a knowledge of the child-mind, but of the amount of work already obligatory in the different grades; then less fault will be found with teachers for "not showing interest" and greater results will follow.

The Legislative Watch-Out Committee should be composed of the shrewdest men available, with a knowledge of state politics. If one is a lawyer all the better; he may save the rest from running their heads into legal nooses at times when they most need them. A good committee of this sort will often engage the interest of many men who would otherwise see no work for themselves in an Audubon Society, not appreciating the value of a promise "not to wear the feathers of song-birds for decorative purposes."

On the other hand, a large mixed body—

drawn from widely different corners, the more so the better, can be organized under the head of Committee for the Posting of the Laws. This vast work cannot be done by a few, and the work rivals in importance the making of the laws themselves; but if fifty or one hundred persons in each state could be relied on to undertake the matter, these in turn may employ local help until the chain is complete. How much more interesting would be the oftentimes per-punctory annual meeting if these three before-mentioned committees brought in full reports!

One of the beauties of a progressive country is that where everything moves nothing can be fixed; it must either go forward, backward, or drop out. Part of legal prerogative is that any legislative session may untie the knots made apparently firm by another, so the Watch-Out Committee must be never-ending.

As any legislative session may change a law, so is the work of the Committee on Posting Laws unending.

As it is to be hoped that children will not cease to be born, so must the work of the Educational Committee be unending.

As we hope that bird-life may never be extinct, on our continent, at least, so must the work of the Audubon Societies be perpetual.

All cheer for 1904, good friends; hold your handle-bars firmly, mind sharp—legislative—curves, and, above all, "keep on pedaling."—M. O. W.

National Committee Notes

BY THE CHAIRMAN

Some persons seek work and some have work thrust upon them; this is another case of the lady or the tiger. We have an ambition, as chairman of the National Committee, to see our official organ, BIRD-LORE, increase its circulation from the present small issue to at least 100,000 copies of each number! When this happy time arrives the propagandist can feel that the principles of bird protection have taken firm root in the hearts of the people and the ephemeral stage has passed away forever. However,

before this bright vista will be near enough for us to enjoy it as a part of the present, there is much hard work for all the bird lovers and Audubonites, old or young, to do. The question is, will the readers of *BIRD-LORE* sit idly by and wait for some one else to till the fallow ground, or will they do their own part in building up this great structure? This is a serious matter and one that should be taken to heart by every one that loves nature. There is, as a nucleus or foundation for this great movement, forty organized Audubon Societies, with nearly a hundred thousand members, the larger part of which are children, who, at the present time, can give but little financial support, but are being taught the basic principles of Audubon work. In a few short years these children will be the men and women who will support and carry on the work that is now being initiated.

The importance and magnitude of Audubon work warrants its being placed in a position of permanence; this can be accomplished quickly and easily by incorporation. The act of incorporating is a simple matter, and, as Audubon work is national in its scope, it seems proper that the place of incorporation should be Washington, D. C.

The National Audubon Committee, composed as it is of one delegate from each regularly organized Audubon Society, will then be in a position to appeal to the bird-loving public for a much-needed endowment fund. This fund should be raised by a popular subscription from bird lovers in all parts of the country. No subscription will be too large and none too small to be thankfully received. Objects no more worthy nor half as economically important are endowed with hundreds of thousands of dollars; why not the Audubon movement, which has for its sole object the preservation of the wild birds of the country? Think of a birdless world,—no song, no bright plumages, and no check to insect pests! This is another stone in our great building; Audubonites! are you willing to help lift it in place? Let the chairman hear from you with pertinent suggestions and promises of aid. So much for permanent work.

At the present time it is important that

every reader of *BIRD-LORE* and every Audubon Secretary and Local Secretary should take immediate steps to create public sentiment against the use of the aigrette. Educational Leaflet No. 7, which appears in the present issue of *BIRD-LORE*, gives all the facts necessary to show how pressing the matter is if the white Herons are not to become exterminated. Let every woman who is still willing to wear a Heron's plume have a personal appeal made to her better nature; right must triumph in the end. Spread this leaflet, with its appeal to motherhood, broadcast over the country. Colored slides have been prepared of the five half-tones in the leaflet, which will be sent on application to all the societies that have traveling bird lectures. These and the leaflets will do much to reduce the sale of aigrettes and stub plumes.

The second attempt to secure a satisfactory non-game bird law in Louisiana has just been defeated.

Owing to the scare occasioned by the rapid march of the boll-weevil pest from Mexico through Texas to the borders of Louisiana, the Governor of the latter state called a special session of the legislature late in December to devise means for preventing the boll-weevil scourge from spreading into that commonwealth. Among the plans discussed was a law to prevent the killing or caging of birds.

A bill was prepared, introduced and was adopted in the House of Delegates by a vote of 73 to 9. To the very great credit of the members, it is reported that the speeches made in behalf of the bill were very earnest in favor of bird protection. The bill was defeated in the Senate by a political trick.

Among the most active antagonists to the passage of this much-needed legislation were the representatives of the caged-bird dealers. Bird lovers in Louisiana, and especially the cotton-planters, who have so much at stake, should at once take active steps to create public sentiment in the state in order that at the next session of the legislature the agricultural interests of the whole state should not be set aside by the paltry interests of less than half-a-dozen men who

are engaged in caging valuable insectivorous birds to export for their pecuniary gain. Louisiana has over \$140,000,000 invested in agriculture; why should this enormous moneyed interest be jeopardized by a few men whose entire invested capital probably does not amount to \$10,000?

The New Jersey Audubon Society is making a determined effort to prevent the passage of a law permitting the killing of Robins by fruit-growers, and calls for the assistance of all bird-lovers.

The annual report of the Chairman of the National Committee is now ready for distribution. It gives in detail the status of Audubon work, legislation and warden service in the United States. All the Audubon Societies are urged to circulate this report liberally, as it cannot fail to do good. It is especially important that every local secretary should have a copy at the earliest possible date, in order that they may know what is being done in other sections of the country.—W. D.

Bird Protection Abroad—III. New Zealand

BY T. S. PALMER

(Concluded from Vol. V., No. 5, p. 174)

The amendments to the New Zealand Act of 1880 are nearly all brief. In 1881 authority was given the colonial secretary to issue permits to persons to destroy game injuring crops on their own lands. In 1884 rangers were granted the powers of constables, with authority to seize guns, nets, or any devices used in capturing game contrary to law. Under the Amendment Act of 1886 all game is to be considered as imported game without requiring proof of the fact of importation. The Amendment Act of 1889 prohibited the use of guns larger than No. 10 bore, required licenses for sale of native game, and a record of all sales of game, fixed an open season for Godwits during February, March and April, and required acclimatization societies to file annual statements of their accounts with the colonial treasurer. The Amendment Act of 1895 contained two important provisions: one prohibiting the importation of any animal, bird, reptile, or insect without a per-

mit from the Minister of Agriculture, and the other authorizing the Governor, on recommendation of the colonial secretary, to prohibit the sale of game or native game in any district when necessary to prevent undue destruction of the species. In 1900 export of game was prohibited except under permit from the colonial secretary, and every third year, beginning with 1901, was made a close season for the native Pigeon, 'Pukeko' and 'Kaka,' or native parrots of the genus *Nestor*, one species of which, the 'Kea' of the Maoris, has become well known on account of its remarkable habit of attacking sheep.

The object of presenting this array of apparently uninteresting details is to furnish not only a résumé of New Zealand game legislation, but also to afford an opportunity of comparing the game laws of the colony with those of the United States. It must be admitted that 'The Animals' Protection Act of 1880' was in advance of most of our state laws of the same period, and, with its heavy penalties and provision for rangers, was more likely to be respected. It has stood for twenty-three years with less change than almost any of our state laws during the same time, possibly on account of the broad powers given to the Governor in modifying the game list, shortening or closing the open seasons, and prohibiting the sale of game, which adapt the law to local conditions and obviate the necessity for radical amendments. It is interesting to note that New Zealand prohibited the introduction of injurious species twenty years earlier than the United States, and required permits from the Department of Agriculture for all foreign animals and birds five years before Congress adopted similar provisions in the Lacey Act. Finally, in marked contrast with our practice, she has found it advantageous, in spite of her varied climatic conditions, to have a uniform open season of moderate length for all game instead of seasons of varying length extending over eight or nine months for different birds. Spring shooting is thus done away with and more effectual protection given to migratory shore-birds and waterfowl than is possible under our present laws.

NATIONAL COMMITTEE OF AUDUBON SOCIETIES

EDUCATIONAL LEAFLET NO. 7



THE SNOWY HERON

Order—*Herodiones*

Genus—*Egretta*

Family—*Ardeidae*

Species—*Egretta candidissima*

The Snowy Heron

By WILLIAM DUTCHER

Chairman National Committee of Audubon Societies

Description.—Snowy Heron (*Egretta candidissima*). There is no difference in the plumage of the sexes, both of which are always pure white. Occipital (top of head) and jugular (lower throat) region with plumes. From the interscapular region (between the shoulders) grow a large number of "aigrette" plumes which extend to or beyond the tail and, when in perfect condition, are recurved at tip; lores (front of eye), eyes and feet yellow. Bill black, except at base, which is yellow; legs black, except lower portion behind, which is yellow. The adults after the breeding season and the immature birds do not have the 'aigrette' plumes. Length from tip of bill to end of tail not including plumes, varies from twenty to twenty-seven inches.

The Snowy Heron always breeds in colonies. Nest, a closely built platform of sticks, in rushes, bushes or trees in swamps. Eggs, three to five in number, of a light greenish blue color.

Distribution.—All of temperate and tropical America between 41° north latitude on the Atlantic coast; 45° north latitude on the Pacific coast, and 35° south latitude. After the breeding season, stragglers from the southern states sometimes wander as far north as Nova Scotia and Ontario.

The American Egret (*Herodias egretta*) is almost twice the size of the Snowy Heron, its length being from thirty-seven to forty-one inches; it is also pure white, and both sexes have during the breeding season only a large number of interscapular plumes which extend beyond the tail. These plumes are straight, and not recurved as are those of its smaller relative.

The White Herons of the other parts of the world are very similar to those found on the American continent, even to the difference in size. Corresponding to the Snowy Heron in America, *Garzetta garzetta* is found in southern Europe, across to China and Japan, south to the Burmese countries and the Indian Peninsula and Ceylon, Philippine Islands, Malay Peninsula, and the whole of Africa. A second small form, *Garzetta nigripes*, is found from Java throughout the Moluccas to Australia. The large forms, corresponding to the American Egret, are *Herodias alba* of southern Europe, east to central Asia, and south to Africa, the Indian Peninsula and the Burmese countries; and *Herodias timoriensis*, which is found from Japan and north China, south through the Malayan Archipelago to Australia.

The food of Herons consists of shrimp, small fish, aquatic insects, crayfish, and life found along the shores and in swamps. Economically, so far as known, they are neutral or harmless, but may prove to be highly beneficial when a scientific study of their food has been made.

The recent history of the White Herons is pathetic in the extreme, as it is a tale of persecution and rapid extermination. It was a sad day when fashion decreed that the nuptial plumes of these birds should be worn as millinery ornaments. Feathers and scalps, rapine and blood are the accompaniments of savage life, but better things are expected of civilization.

It is hardly possible that any women of the present day are unacquainted with all the horrible details of plume-hunting. The following pen picture of the horrors of the plume trade, drawn by Prof. T. Gilbert Pearson, Secretary of the North Carolina Audubon Society, shows the work in all its bloody reality:

"In the tall bushes, growing in a secluded pond in a swamp, a small colony of Herons had their nesting home. I accompanied a squirrel-hunter one day to the spot, and the scene which met our eyes was not a pleasant one. I had expected to see some of the beautiful Herons about their nests, or standing on the trees near by, but not a living one could be found, while here and there in the mud lay the lifeless forms of eight of the birds. They had been shot down and the skin bearing the plumes stripped from their backs. Flies were busily at work, and they swarmed up with hideous buzzings as we approached each spot where a victim lay. This was not the worst; in four of the nests young orphan birds could be seen who were clamoring piteously for food which their dead parents could never again bring to them. A little one was discovered lying with its head and neck hanging out of the nest, happily now past suffering. On higher ground the embers of a fire gave evidence of the plume-hunters' camp.

The next spring I visited this nesting site, but found only the old nests fast falling to decay.

When man comes, slaughters and exterminates, Nature does not restore "

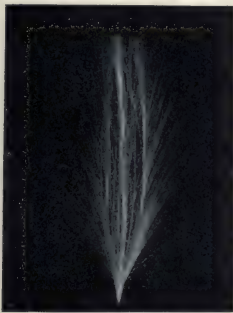
This story of a single Florida colony is the story of what has happened in all of Florida, the Gulf coast of the United States, along the Mexican and Central American coast, both on the Atlantic and Pacific sides, and has extended into South America. From the enormous numbers of Herons' plumes that are annually sold in the London feather market there is no doubt that plume-hunters are at work wherever the white Herons are found.

That Herons are rapidly becoming scarce and more difficult to obtain by the plume-hunters is shown by the difference in price in the raw material. Twenty years since, the cost per ounce was only a few dollars, now it is more than quadrupled. In circulars sent by New York feather dealers to plume-hunters in Florida during 1903, thirty-two dollars per ounce was offered for fine plumes. This not only indicates the rapidly increasing scarcity of the white Herons but also that some dealers are willing, in order to obtain the plumes, to offer special inducements to hunters to violate laws enacted for the protection of these birds.

The much-sought-after plumes are worn by the Herons only for a very limited period during the year, that is, in the breeding season. Unfortunately, during that time the Herons gather in colonies; whether this is for protection or is merely social is not known. During the remainder of the year they are wild and wander over large districts, when it is impossible for plume-hunters to kill them in quantities that would afford pecuniary returns. However, during the breeding season the habits of these unfortunate birds change entirely,



'SCALP,' OR RAW
PLUMES AS
TAKEN FROM BACK
OF BIRD



PLUMES FROM EGRET; THE
'STUB' PLUME OF
COMMERCE



PLUMES FROM BACK OF SNOWY
HERON; THE 'AIGRETTE'
OR 'OSPREY' OF
COMMERCE

and with the growth of the parental instinct they lose all sense of fear or wildness and the hunter has little trouble in securing his victims. The death of the parent birds entails the destruction of the helpless nestlings by the painful and lingering method of starvation.

Mr. Chapman says, in his 'Birds of Eastern North America,' "The destruction of these birds is an unpleasant subject. It is a blot on Florida's history." The blood stain is not in Florida alone but may be found in every part of the world. A few years more of reckless slaughter during the breeding season and the white Herons will be classed among the extinct birds, the number of which is far too rapidly increasing.

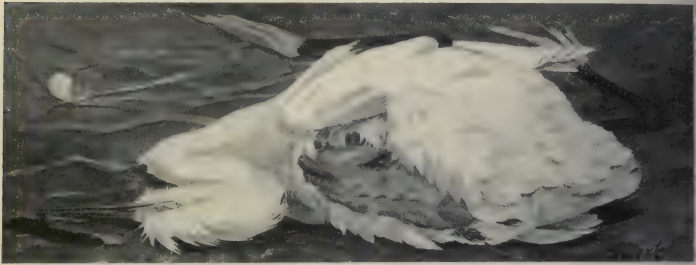
Dealers often state that 'aigrettes' are manufactured, but this is not so; man has never yet been able to imitate successfully these beautiful plumes; all that are offered for sale have been torn from the backs of the smaller white Herons. Even the stiff plumes, which are known in the trade as 'stubs,' are not manufactured but are the plumes of the larger species of white Herons.

Herons' plumes are often sold as 'ospreys'; this is simply another trade name used to disguise the fact that they are Herons' plumes: the 'Osprey' of science is the Fish Hawk, which produces no plumes of any kind.

Both 'aigrettes' and 'stubs' are dyed various colors, especially black; however, no matter what is the tint of the plume when offered for sale at the milliners', its original color when on the back of the Heron was white; the artificial color is merely in response to the dictates of fashion.

It is conceded that the sale of aigrettes from American birds is prohibited, but it is claimed that there are no laws that prevent the sale of imported goods. Granting that this may be the case, how is the buyer to tell whether the goods are from American or Old World Herons? The most expert ornithologists cannot separate the plumes after they are taken from the birds.

The wearing of 'aigrettes,' or plumes from the white Herons, whether native or foreign, has now become a question of ethics which every woman must decide for herself. It matters not a whit where the plume comes from, the fact remains the same that the woman who wears one is party to a cruel wrong and the plume itself becomes a badge of inhumanity and is no longer a thing of beauty.



HERON FROM WHICH PLUMES HAVE BEEN TORN

"Mark how the Mother lulls to slumber
Her new-born Babe with tend'rous love
And guards her treasure from above!"

The word Mother is the most sacred of all names, and motherhood is the closest of all human ties. Oh, Mother! when you nestle your little one to your loving breast and look into the eyes that reflect the mother-love shining from your own, do you not sometimes think with an involuntary shudder of the sorrow and grief it would be were the child to be taken from you? Or, still worse, if your tender care were to be removed from the helpless infant? While this thought is still with you, extend it to the bird-mother, for she surely has for her offspring the same tender love that you have for yours; she has the same affection, the same willingness to face danger to protect what is to all mothers dearer than life itself. Oh, human mother! will you again wear for personal adornment a plume taken from the dead body of a bird-mother, the plume that is the emblem of her married life as the golden circlet is of your own, the plume that was taken from her bleeding body because her motherhood was so strong that she was willing to give up life itself rather than abandon her helpless infants! Whenever you are tempted in the future to wear a Heron's plume, think for a moment of your own motherhood, and spare the bird-mother and her little ones.

Study Points for Teachers and Students

Trace distribution of each species of white Heron on the map of the world. When are the plumes worn by the Herons? Which species of Heron have recurved plumes? Which have straight plumes? How are Herons' plumes procured for the millinery trade? Do the habits of Herons change at any period in the year? In what way?

For life history of the American White Herons, read "Audubon's American Ornithological Biography"; for cause of probable extermination of white Herons in America read "The Present Condition of Some of the Bird Rockeries of the Gulf Coast of Florida," by W. E. D. Scott, *Auk*, Vol. IV, pp. 135-144, 213-222, 273-284; also "Stories of Bird Life," by T. Gilbert Pearson.



1. WILSON'S WARBLER, MALE.

2. WILSON'S WARBLER, FEMALE.

3. CANADIAN WARBLER, ADULT MALE.

4. CANADIAN WARBLER, ADULT FEMALE.

5. CANADIAN WARBLER, YOUNG FEMALE.

(ONE-HALF NATURAL SIZE.)

Bird = Lore

A BI-MONTHLY MAGAZINE
DEVOTED TO THE STUDY AND PROTECTION OF BIRDS

OFFICIAL ORGAN OF THE AUDUBON SOCIETIES

Vol. VI

MARCH — APRIL, 1904

No. 2

A Summer With the Bluebirds

By C. F. HODGE, Clark University

With photographs from nature by the author

THE twenty-eighth of last March a Bluebird was seen in a cherry tree over the study window. While he flitted down to the bird bath and took a few sips of the water that had probably attracted him to the spot, I quietly raised the window-sash and snapped a big mealworm far out onto the driveway. Scarcely had it touched the ground when two Bluebirds swooped down upon it. I had not seen the female before, and in the fluttering scramble I failed to note which bird got the worm. For a minute or two you may be sure the worms fell thick and fast and the two birds apparently fought for every one. They must have been famishing, for they ate more than a dozen large mealworms apiece. At last the female appeared to be satisfied and flew to a low branch of the cherry tree and did not come down for the next worm. The male dropped for it, however, but, instead of swallowing it, he flew to the side of his mate and with a bewitching twinkle of one wing offered her the worm. She took it from his bill; and this scene was repeated with the next three or four worms until, when he offered her another, she touched it daintily with her bill as if to say, "They are delicious, but I really can't eat any more," and turned her head away, and he swallowed the worm himself. This exquisite little piece of bird etiquette was enacted five or six times, and then both birds flew away.

We christened the birds on the spot 'Twinklewing' and 'Bluet,' but feared lest we had seen the last of our new acquaintances as they drifted out of sight among the tree-tops. Would they know enough to come back?

The question was answered within the hour by a soft flute-note from the cherry tree. There they both were, evidently expecting another hail of mealworms, nor were they disappointed. It was about eight o'clock in the morning when my story began. I happened to be writing at my desk all day and the scenes just described were repeated hourly until sundown,

except that the birds were not quite so ravenous after the first meal, and by afternoon I was safe in discarding caution and could throw the window wide open with as much noise as possible. I took pains to let them see into the large tin box swarming with worms as I held it in my hand and picked them out and tossed them down to the ground. We were pretty good friends by the close of the first day.

My ideas are apt to arrive by freight about the morning after, or, I am sure, I might have been able to record that wild Bluebirds could be tamed to feed on the



THE SECOND MORNING

window-sill in three hours' time. However that may be, next morning early they were both there as you see them in the picture, and the study window-sill remained their dining-table until the first brood left the nest on May twenty-eighth.



A FEW DAYS LATER

A few days later when I came home from the laboratory Mrs. Hodge greeted me with: "You can't guess what happened this afternoon—Bluet perched on my finger and fed from the hand." After this it became the pastime of the family to have Bluet feeding on the hand, and often she would seem to linger to warm her toes. Twinklewing never grew quite

tame enough to alight on the hand, but he would come close enough to pick the worms out of it.

Bluet and Twinklewing had found water and food, and there were about twenty suitable houses within a stone's throw. However, I wanted them to nest closer to the window, and so made and put up a new house in the cherry tree, just where I could study them to best advantage. I hardly dared hope that they would go into it, there were so many other house about. Very soon their desire for a home eclipsed even their appetite for mealworms. They tried every house on the premises and might be gone—

presumably house-hunting—for a day or two at a time. But at last, to my delight, Bluet began carrying billfuls of pine needles into my house in the cherry tree. But then, when the nest was finished, they seemed to pay no attention to it for nearly a week. Soon after that, however, there were five blue eggs and Bluet was brooding, or—as I thought—ought to 'have been. She was certainly off the nest more than half the time in daylight, flying about catching insects and enjoying herself generally. I was tempted to rate her as a shiftless mother, and did not believe that she would hatch a single egg. She did spend her nights on the nest and, after she had gone in and it was beginning to grow dark, Twinklewing would hang with his head in the box for minutes at a time, while a queer series of good-night squeaks could be heard. Then he would fly away, and I could not discover where he slept.

I was glad to admit that Bluet knew more about hatching her eggs than I did, for they all came out May eleventh and all grew to maturity. The seventeenth day after hatching, the young ones sat for their pictures and betook themselves to the tree-tops. I left the nest undisturbed, but, while the parents continued to come to the window for worms, I did not see a Bluebird pay the least attention to it for the rest of the season.

It would take a book to tell all the pleasure and entertainment and opportunity for study they furnished. Several of my students worked their laboratory periods recording the number of insects brought to the nest, but the best students of all were the children, who daily had a story to tell of the Bluebirds catching insects in the garden or taking their baths in the



THE HOME IN THE CHERRY TREE
FIRST BROOD OF FIVE

fountain. The upshot of these observations was that they must have some Bluebirds to catch the insects in their own gardens.

Without help or suggestion, a stick from the wood-pile and a discarded bird-house were brought into requisition, toggled together with many crippled nails, a hole dug and a house erected.

As if at bidding again, Bluebirds built in the new house. I am inclined to think they were the same pair, but, as we had ceased to feed at the window-sill, I am not certain. The brood of four hatched the seventeenth of July and flew the second of August. How this brood happened to appear as you see them in the next pictures requires a word of explanation.

A cold driving rain-storm prevailed the entire day, and, as I went down the path with my umbrella, I heard the note of a young Bluebird in distress. Wet and cold, he was perched on one of the lower branches of the cherry tree, and as I passed under I stopped a moment to look him over, when the most unexpected thing happened that has ever fallen to my lot. He deliberately flitted from his perch to the shelter of my umbrella and lighted in the hollow of my elbow. I took him into the house and fed him with mealworms, giving him a warm place by the kitchen stove.

On my return an hour later, I found two Bluebirds in my day nursery, and learned that the second little voyager had flown plump against our dining-room window and had not knocked in vain. The other two were still in the box—all but their wet little heads—crying loudly for food. I had not seen a parent bird and did not see one about the nest the entire day. I took some mealworms down and tried to feed them in the nest, but on my approach they withdrew from the entrance and paid no heed to worms I dangled in the doorway. I was about to leave them to their fate when an idea happened to strike me at the right moment, and I gave the Bluebird whistle. Instantly the entrance was occupied by two gaping mouths, which



THREE BIRDS IN THE HAND

I proceeded to fill. In this way I fed them two or three times during the afternoon and at the last feeding led them out onto my hand and brought them in to their fellows in the shoebox. Next day I tried to return the young birds to their parents, but, while I saw the female on the deserted

box once, she paid no attention to the nestlings and soon flew off, never to be seen again.

A month of delightful bird



ASLEEP

study followed. The nestlings were tame as kittens from the first, and never showed the least trace of fear or wildness. We gave them a room in the kennel, and how they learned to drink and bathe and feed themselves is a story by itself.



AWAKE!

One sad incident I ought not to omit. In my series of feeding tests I brought in a number of potato beetles and thoughtlessly dropped a large larva into an open mouth before observing whether they would take them of their own accord. I noticed then that they picked them up once apiece, wiped their bills in disgust and declined to touch them again. Next morning one of the birds was dead under the perch.

We liberated the birds—each with a tiny aluminum anklet, for purposes of identification this spring—one bright morning in early September, and feared we had seen the last of them as they flitted out of sight among the tree-tops. I was glad, however, to see that they were actively catching insects among the branches, and since black cherries were ripe they

could not lack for food. We saw little more of them that day, but next morning at sunrise I was awakened by the flute notes of hungry young Bluebirds. There they all were, clamoring for mealworms, and they all came to the hand to feed. For about three weeks they remained in the neighborhood, and a whistle or two would bring them down to our hands. A young Chipping Sparrow, while it never came to feed, was always seen with the Bluebirds. I had hopes that by feeding abundantly I might be able to hold them through the winter and soon have a colony of tame Bluebirds; but about September 20 they suddenly disappeared. I thought they had started on their long journey, but two weeks later the three Bluebirds, with Chippy still in tow, came back, as it would seem, to bid final adieu. They all came to the hand as before, but mealworms seemed to have lost their attraction somewhat; for they, for the first time, left some uneaten. Except for here and there a tell-tale feather, they now looked like adult birds. Since that day we have neither seen nor heard them, but we still cherish the hope that spring may bring them to us again.



FEEDING THE ORPHANS

A Massachusetts Duck Hawk Aery

By GERALD H. THAYER



THE Duck Hawk, or American Peregrine Falcon, is uncommon enough, so that the following account of a remarkably full and satisfying experience with a nesting pair may be of some interest. Mindful of taxidermists and egg-collectors, I shall refrain from naming the exact location of the aery, which may be annually reoccupied for many years to come if no unfortunate accident

happens to the grand old birds. Suffice it to say that it is in Berkshire county Massachusetts, many miles from the two aeries recorded by Faxon and Hoffman (*Birds of Berkshire County*, p. 41). In September, 1902, I found two adult Duck Hawks haunting a certain rugged, craggy hill, which towers above a well-watered and fertile intervale of the beautiful Berkshire country. The more gently sloping sides of this hill are heavily wooded, but the one on which the Hawks were found, being everywhere almost precipitously steep, supports only a meager growth of trees, and, where not entirely denuded of soil, is covered mainly with blueberry bushes and brambles. It contains several sheer and even overhanging cliffs, unscalable by man without the aid of ropes, and in all respects well suited to the nesting of such a lover of bold crags as the Peregrine Falcon.

On the September morning when I discovered the birds here, they were very wary, and took themselves off after a few gyrations over my head, well out of gun-shot range. Nesting was, of course, long over for the year, but I found ample signs that the hill was a habitual breeding-ground of theirs. Almost all the shelves and ledges overtopping and bordering one of the larger cliffs were strewn with feathers,—some fresh, some matted and decomposed. Those of domestic Pigeons were much the commonest, but there were also Ruffed Grouse, Flicker, Kingfisher, Blue Jay and hen feathers.

Nearly eight months later, on May 31, 1903, I again climbed the hill, determined to find and reach the nest if it were humanly possible. To my great delight, the Hawks were there, and with significantly altered demeanors. I was half-way up the steep hillside, picking my way between precipices, before I heard or saw them; then the pair, mighty female and smaller male, launched themselves, shrieking, into the air from the biggest and most distant cliff, and in a few seconds were wheeling over me, with frantic cries, most menacingly near. The female was by far the bolder of the two, coming nearer and staying longer than her mate; and this difference in their characters proved to be constant, and at all times most pronounced. From the field below I had espied a very suspicious-looking white stain, on the border of the nearest high cliff, and this I now

tried to reach from above. The Hawks had already desisted from their attack and taken up their old position on the other cliff; but when I emerged from a thicket, on the side of a chasm, and crawled hopefully out along the sloping ledge to the last bit of safe ground in the direction of the white stain, the female,—blue-backed and ruddy-breasted and superbly marked, with tremendous yellow feet, flight of transcendent force and swiftness, and ear-splitting, savage, raucous, incessant cries,—dashed across and assailed me more violently than ever. She once came so near that I felt the wind of her great wings on my face. But this sortie was as brief as it was bold, and the bird soon rejoined her impassive mate on the distant cliff, leaving me to grapple with the problem of reaching the suspected ledge below me. Clutching a dead hemlock sapling which stood on the ultimate verge, I leaned far out over emptiness (two hundred feet, more or less, above the foot-hill field). There, seven feet below me, and off to one side, was the dribbled bottom of the guano-heap. The nest, if nest there was, could not be seen because of a projecting rock. Having no rope, I stripped off my shirt and undershirt, twisted them together, tied one end to the base of the hemlock, and, holding on for dear life, leaned out still further. But lean and peer as I might, the back part of the cranny remained hidden, and nothing could be seen of the nest. Soresly tantalized, I retreated, made a long, laborious circuit through vilely dense brush and brambles, which concealed numberless jagged rocks and treacherous holes, and climbed to the highest accessible point below the guano-mark. But the nest was no more visible from below than from above,—projecting rocks still cut off the back of the cranny from my view. So, though the female's furious attack had firmly convinced me that I had found the nest, I gave up trying to reach it, for the time, planning to return with a rope and a companion. Before leaving the hill, however, I went over to investigate the other high cliff, where the Hawks spent most of their time. They were sitting there as I approached the verge from above, and suddenly took wing, together, and shot past me, with a great roar of vibrating quill-feathers, at such astounding speed that I did not manage fairly to focus my eyes upon them. They appeared as two bow-bent, lightning-rapid streaks, and disappeared over the hill's further rim almost before my brain had interpreted the imperfect message from my frustrated eyes. Again, a few minutes later, I saw beautiful speed-feats performed by the male, as he and his mate were gyrating high over the cliffs. They were floating about in the bright, keen air, with the easy indolence that marks superlative power at rest; when, of a sudden, the male made a sharper wing-movement, and was two hundred yards away from his mate in the merest twinkling of an eye. Veering, he then returned to her with even more dizzying swiftness; and this performance was repeated several times. His wings always 'sang' on the backward course, but never when he was going away. This, and the greater

speed of the return, were doubtless owing to the fact that he always went somewhat upward from the female.

In Norway, I have seen a still more wonderful sky-dance of two Peregrines. The birds were fighting, high over the moors, and each step of the headlong dance was about a quarter of a mile long.

To return to the Berkshire Hawks. The notes of the sexes were decidedly unlike. The screams of the male were weaker, with a different inflection, and less constantly iterated, than his mate's. Her common cry was a single-noted, piercing, savage scream, susceptible of tolerably good imitation by a man's voice. Occasionally, and particularly when she had been screaming incessantly for several minutes, her voice dropped to a much lower note, and she uttered a deep, gruff barking, very much like the coarsest note made by the Great Black-backed Gull on its breeding-grounds. This note might also be likened, in some of its variations, to the 'honking' of the domestic Goose, though having far less modulation. Though the male's voice was not so loud, he had, in addition to notes much like the female's, though less strenuous, a two-noted, half-whistling call which she appeared to lack. In plumage the two birds were almost precisely alike. Both had strong cheek-patterns, rock-blue backs, lightest on the tail coverts and darkest on the head, with clearly-defined dusky wave-bands, or marblings; both were very ruddy underneath, with almost round black markings, except for the flanks, which were slaty-gray barred with dusky; and both had bright yellow tarsi and feet, and yellow ceres.

I spent little time in examining the second cliff that day, feeling so confident that the nest was on the other. The birds were left undisturbed for a few hours; but their troubles began anew early the next morning when I returned to my task, with a competent companion and an inadequate rope. We encountered many unexpected difficulties in reaching the guano-heap, even with the rope, owing to the overhung and otherwise obstructive conformation of the cliff at that point. But at the end of two hours of maneuvering, we managed to rig the rope for an ascent,—possible, but very unpleasant. After a few false starts, I scrambled up. The nest was a farce! Nothing but a shallow, empty pit in the rock-face topped the guano-heap, which was revealed as merely the mark of one of the old birds' favorite perches. Of these there proved to be several, equally conspicuously branded, on the other cliff, to which we now turned our attention. For there the nest must surely be. But no! We searched many a ledge and cranny, with and without the aid of the rope, but found merely feeding-places, littered with pigeon-feathers and daubed with excrement. Furthermore, the Hawks, which had once that day made a dash at us on the other cliff, now flew quietly away, and seemed to take no further interest in us or our proceedings. This was, of course, a very bad sign, which helped to discourage us, and we went away disappointed and perplexed. Next morn-

ing I came again, alone, to try once more. One event of the preceding day, of which I had taken little note at the time, gave me a good deal of hope as I now scanned the hillside from below. The female had sailed down with a quarry to a place between the two cliffs, where from above I could see nothing but trees, and a sound unlike her usual calling had seemed to come from there after she had alighted. Knowing, however, that the Falcons sometimes sat on trees (I had seen one of them do it that very morning), and seeing no rocks at the place, I had ignored the new-note evidence as probably an error, and dismissed the matter for the time. (There was no tree on the hillside which could have furnished a suitable nesting cavity.) But now, looking from below, I was delighted to see an isolated cliff of fair size underneath the place where the Hawk had seemed to alight. I climbed toward this cliff with renewed hope, which was soon increased by the mother's appearing overhead and beginning a series of frantic plunges toward me, in a more determined fashion than ever before. When I tried to scale the cliff, which at that point was only about fifty feet high above the steep, wooded slope, she hurled herself at me, wildly screaming, in such a frenzy of passion that I half expected to have to fight her. The noble great bird always checked herself, however, just before she reached my head, and swerved aside, with a strong rustling of her sharp, steely, marvelously wielded wings. The cliff itself proved unclimbable at that point, so I scrambled up the steep, sapling-covered slope that bordered it, and presently came out on the flat top of the rock-face, shaded by small birches and hemlocks. The mother was more furious than ever, and I could not doubt that the nest was somewhere on the little cliff. Eagerly peering over, I at once espied white down-feathers, gleaming through the leaves of a birch; and in another second was feasting my sight on three princely, dark-eyed young Peregrines, about four weeks old, with many brown contour-feathers sticking through their milky fluff. Success at last! Their ledge, for a wonder, was within easy reach from above, and I was soon on it with them, deafened by the redoubled screechings of the anguished mother, and the concerted guinea-hen clatter of the youngsters. Approached too closely, they threw themselves upon their backs, and fought valiantly with bill and claws. Their feet were blue-gray and of ungainly bigness, and their toes sometimes doubled up sideways under them as they hobbled about.

The ledge, which was covered with the wreckage of hens, Chickens, Pigeons, Flickers and Blue Jays, as well as with excrement and pellets, was about six feet long by three feet wide, and overlooked most of the hillside. It was entirely inaccessible from below, but the merest child's play to reach from above, being only about ten feet from the top, and shaded by birch saplings which gave ample hand-hold for a descent. There was even one sapling growing on the ledge itself. No vestiges of true nest-

material were to be found on the littered ledge, and no egg-shells; but these would inevitably have been trodden down and covered up. The youngsters had their crops distended, and fresh, bloody dove-feathers under their feet revealed the character of the food they contained. Their cries were very like their mother's, but weaker; and when they all screamed together, as they did almost incessantly, the racket produced sounded, as I have said, almost like the cackling of a flock of Guinea-fowl.

I made three subsequent visits to the nest, with several trusted companions, all sworn to refrain from molesting the birds or revealing their whereabouts to other people. We used up two rolls of kodak films on the seated young and the attacking mother; but, owing to our inexperience, and the fact that the sunlight was then deeply obscured by forest-fire smoke, none of the pictures proved very good.

The parents were usually away hunting when we reached the aery in the afternoon, and only once or twice did we see them at home together. On one of these occasions we watched them angrily put to rout an unfortunate Red-tailed Hawk, who had wandered too near their young. Several times the female appeared over a farm-house three miles from her hill, flying rapidly in the other direction; and I once saw her returning with booty over the same route. This is in keeping with the habits of Falcons as reported by other observers, who say that the birds do most of their hunting at some distance from their aery, however plentiful the game in its immediate vicinity. On Isola Rossa, a beautiful little bird-island off the west coast of Sardinia (much resorted to, among other species, by the rare Audouin's Gull), my father and I found Peregrines breeding practically in the midst of a large colony of Rock Doves, though the one we shot was crammed full of Black Starlings (*Sturnus unicolor*), from the mainland. But I have wandered from my narrative. On the single occasion when we found the male alone on guard, he acted very timid, and hurried away, after a few feeble circlings and squealings. Perhaps he went to seek his wife. She, whenever she returned during one of our visits, began screeching in the distance, having apparently detected us from afar, and hardly ever ceased to fly back and forth past us and her charges, screaming furiously, as long as we were in the region. When I sat on the ledge beside the babies, photographing them, her agitation became so extreme that she very nearly attacked me outright. It was a most majestic and pathetic spectacle. More than once I felt the breath of her powerful wings upon my face, and often she approached within five yards before swerving aside. Her huge yellow feet were sometimes menacingly extended, and sometimes retracted, as she hurtled back and forth beside the cliff. Once, after we had been some time with the youngsters, the mother returned with a quarry, which she quickly deposited on a rock high up the hillside, to be unencumbered for her attack on the intruders. I went and found the thing,—which

proved to be a large white chicken, decapitated and eviscerated,—and brought it to the young ones. Their crops were always full, and we always found fresh feathers on the ledge. Twice or thrice they were pigeon feathers, and once those of a brown hen or chicken. The whole tale of species whose feathers I have found on this hill of pirates is as follows: Grebe (Dabchick) (not quite surely identified), Wood Duck (also not quite surely), Ruffed Grouse, hen, pigeon (their staple food), Night-hawk, Kingfisher, Blue Jay, Flicker (commonest after pigeon), Sparrow (not specifically identified) and Robin.

One thing more about these Hawks must be recounted,—my wonderfully close view of the father, which occurred in this wise: I was sitting, very quiet, on the ground above and just out of sight of the youngsters, who had entirely ceased their noise. Suddenly they began 'chirruping,' in a new and peculiar way, which I at once guessed must be an eager and fearless greeting to one of the parents. But the seconds passed, and no Hawk appeared overhead, while the chirruping continued unabated. Crawling to the edge and peeping over, I rested my astonished and delighted eyes, at the short range of about ten feet, on the neat blue head of the male, who had quietly sailed up from below, bringing provender. An attempt to photograph him scared him away, but not before I had had a splendid view of him, sitting fully exposed on the outer side of the ledge. When he flew, he carried the quarry with him! Cool-headed but mistaken daddy! He was afraid we would steal it,—and how different were our real habits and intentions! We had fed the youngsters beef (which they devoured greedily enough off the end of a stick, when it was shoved almost into their blathering mouths), and we had even brought them from a distant ledge the food captured by their mother!

My last visit to the aery was made on June 5. The young then showed almost as much brown as white, and had well-developed, banded tails. One of my companions saw them about a week later, and reported them as very nearly ready to fly.

And now for a few words of dissertation. In spite of the noble classical associations which cling to the Peregrine, and its unquestioned preëminence among the raptorial birds, this bird is now officially 'black-balled' in America, and people are urged to destroy it at every opportunity,—according to the narrow, strictly utilitarian creed that all animals which detract in any degree from man's commercial gains must be exterminated. But does it not rather seem as if a bird of such vast interest to the naturalists, the poets, and all literate persons and lovers of life in general, ought to be carefully preserved, as an element of the intrinsic natural beauty of the country? We cannot blame the poor farmer for killing the individual Hawk that devastates his dove-cote; but this is very different from waging war upon the species at large. And, if only it could be arranged, how

gladly would those who care pay for all the damage done by Peregrines each year in the New England and Middle States, in order to keep the few remaining aeries tenanted! True, the birds are not yet in imminent danger of extermination—perhaps they are not much rarer than they always have been—but think how scarce they are relatively to any of our other Hawks, and how easily their few aeries in the civilized part of our country could be abolished! Surely all true ornithologists should refrain from molesting breeding pairs, whether for eggs or skins. Surely, too, all true ornithologists should be willing to spare them many Kingfishers and Jays and Flickers and Robins; for the wide lands of New England harbor untold myriads of these minor birds, while the known Falcon aeries of that same region could almost, figuratively speaking, be counted on ten fingers!

The Peregrine Falcon is, perhaps, the most highly specialized and superlatively well-developed flying organism on our planet today, combining in a marvelous degree the highest powers of speed and aerial adroitness with massive, warlike strength. A powerful, wild, majestic, independent bird, living on the choicest of clean, carnal food, plucked fresh from the air or the surface of the waters, rearing its young in the nooks of dangerous mountain cliffs, claiming all the open atmosphere as its domain, and fearing neither beast that walks nor bird that flies, it is the very embodiment of noble rapacity and lonely freedom. It has its legitimate and important place in the great scheme of things; and by its extinction, if that should ever occur, the world would be impoverished and dulled.



VIRGINIA RAIL ON NEST

Photographed by E. G. Tabor, Meridian, N. Y., May 21, 1903

The Whip-poor-will

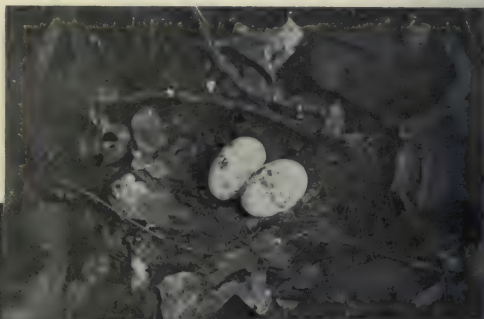
By RETT E. OLMSTEAD

With photographs from nature by the author

IT was June 25, 1903, that Mr. Topliff, County Superintendent of Schools-Hook, Robert Hegner, and myself drove from Decorah, Iowa, down the Upper Iowa river eight miles for a day's outing. It was a delightful day and the birds were astir everywhere. With note-book in hand, the different species which we had actually identified during the day numbered fifty-two. Where we camped for the day we discovered a Yellow-bellied Sap-sucker's nest in the top of one of the tallest trees,



NEWLY HATCHED WHIP-POOR-WILLS



WHIP-POOR-WILL'S EGGS
AND NEST

some 75 feet high. I had never before seen this bird nesting so high, and made a note of it.

After our noon lunch we were walking up the river, some ten rods distant from the stream,

when we nearly stepped upon an old Whip-poor-will. No sooner had she wobbled away, feigning lameness, than we discovered two eggs. For a few minutes she flew about within a very few feet of us, but soon a little farther, and finally disappeared. The sun was bright, but the foliage upon the trees did not permit of a snapshot with the camera; consequently the camera was placed a few feet from the nest and focused properly, a string was attached to the shutter and I climbed a tree four rods away to await the return of the old bird. An hour passed, and no return. Mr. Hegner then relieved me and waited two hours without her returning. We then made several exposures of the nest and eggs, one of which, made with a ray-filter, is here shown.

Nothing more was done or was the nest visited by me again until July 4. The exact location of the nest being known, I had hoped to be able to make an exposure of the old bird upon the nest. Owing to the darkness of the woods and the wildness of the old bird, I was not successful in doing this when I first approached and found the old bird upon the nest. She flew at once, and I beheld two little bunches of sulphur-yellow cuddled in the spot from which she had flown. Some exposures were made of the young, as shown in the cuts. Two half egg-shells were still in the nest.

Determined, if possible, to get a picture of the old bird, I set the camera ten feet away, focused it upon the young and went away for our noon



WHIP-POOR-WILL ON NEST

lunch, being gone about an hour. Returning, I walked on as though going by the nest but close enough to the camera so as to press the bulb. The old bird was upon the nest, and in this way I obtained the picture as shown in the cut. The old Whip-poor-will was looking directly at the camera, and, as a result, is not easily seen in the picture. Never did we see but the one Whip-poor-will about the nest. From the appearance of the young, they could not have been more than a few days old. It was with difficulty that they were seen among the leaves when one was within even three feet. And the old bird upon the nest could hardly be seen unless one knew the exact spot where she sat. It was with great regret that I could not remain and study this household on up to maturity. The Whip-poor-wills are plentiful in this section, but this is my first nest of this good bird.



A NESTING CROW

Photographed by G. E. McColm, Bucklin, Kansas.

For Teachers and Students

The Migration of Warblers

THIRD PAPER

Compiled by Professor W. W. Cooke, Chiefly from Data
in the Biological Survey

With drawings by LOUIS AGASSIZ FUERTES and BRUCE HORSFALL

BLACK-THROATED GREEN WARBLER

PLACE	No. of years record	Average date of spring arrival	Earliest date of spring arrival
<i>Atlantic Coast—</i>			
Raleigh, N. C.	9	March 27	March 22, 1898
Asheville, N. C. (near)	4	April 28	April 24, 1893
French Creek, W. Va.	4	April 16	April 10, 1893
Washington, D. C.	5	April 26	April 22, 1888
New Providence, N. J.	7	April 30	April 23, 1891
Englewood, N. J.	6	April 30	April 25, 1901
Beaver, Pa.	6	April 30	April 25, 1891
Renova, Pa.	10	April 26	April 22, 1896
Alfred, N. Y.	15	May 1	April 22, 1889
Ballston Spa, N. Y.	7	May 8	April 29, 1894
Portland, Conn.	6	May 4	April 27, 1886
Hartford, Conn.	7	May 2	April 28, 1895
Providence, R. I.	4	May 3	May 1, 1897
Central Massachusetts	13	May 1	April 26, 1891
Southeastern Massachusetts	12	May 1	April 25, 1897
Northeastern Massachusetts	16	May 1	April 24, 1897
Randolph, Vt.	6	May 8	May 2, 1890
St. Johnsbury, Vt.	6	May 9	May 5, 1900
Southern New Hampshire	7	May 3	April 30, 1903
Southern Maine	8	May 6	May 3, 1894
Montreal, Can.	4	May 11	May 7, 1891
Quebec, Can.	9	May 10	May 6, 1900
Central Nova Scotia	4	May 13	May 10, 1896
St. John, N. B.	12	May 13	May 8, 1895
North River, P. E. I.	3	May 17	May 13, 1889
<i>Mississippi Valley—</i>			
Mouth Rio Grande, Texas	7	March 22	March 18, 1880
San Antonio, Texas	4	March 24	March 13, 1880
Eubank, Ky.	4	April 11	April 9, 1894
Chicago, Ill.	12	May 1	April 27, 1900
Rockford, Ill.	5	May 3	April 28, 1889
Brookville, Ind.	5	April 29	April 26, 1886
Waterloo, Ind. (near)	9	May 1	April 24, 1894
Petersburg, Mich.	10	May 2	April 25, 1886
Battle Creek, Mich.	6	May 3	April 28, 1885
Northern Michigan	2	May 23	May 20, 1899
Southern Ontario	9	May 2	April 28, 1902
Parry Sound District, Ont.	8	May 6	May 3, 1896
Ottawa, Ont.	16	May 13	May 4, 1885
Southeastern Iowa	6	May 5	April 30, 1895
Lanesboro, Minn.	3	May 7	April 30, 1888
Aweme, Man.			May 13, 1898
Athabasco Lake			June 3, 1901

FALL MIGRATION

PLACE	No. of years' record	Average date of last one seen	Latest date of last one seen
North River, P. E. I.	4	Sept. 5	September 13, 1890
St. John, N. B.	6	Sept. 13	September 25, 1891
Southern Maine	7	Sept. 27	October 2, 1898
Fitchburg, Mass.			October 9, 1898
Portland, Conn.			October 20, 1888
Southeastern New York	5	Oct. 4	October 15, 1887
Renova, Pa.	7	Oct. 7	October 12, 1899
Germantown, Pa.	5	Oct. 8	October 18, 1888
Washington, D. C.			October 20, 1890
Raleigh, N. C.	5	Oct. 8	October 16, 1893
Ottawa, Ont.	7	Sept. 27	October 8, 1887
Chicago, Ill.	9	Sept. 27	October 12, 1894
Eubank, Ky.			October 14, 1891
New Orleans, La.			October 28, 1899

GOLDEN-CHEEKED WARBLER

Arrived near San Antonio, Tex., March 13, 1895, March 10, 1896, March 9, 1897, March 13, 1898, March 14, 1900. Average, March 12.

WILSON'S WARBLER

Wilson's Warbler has been separated into three subspecies, an eastern form (*Wilsonia pusilla*) extending west to the great plains; a Rocky Mountain form (*Wilsonia pusilla pileolata*), and a Pacific form (*Wilsonia pusilla chryseola*).

The range will be sufficient to indicate which form is intended in each of the following notes:

PLACE	No. of years' record	Average date of spring arrival	Earliest date of spring arrival
<i>Atlantic Coast—</i>			
Rising Fawn, Ga.			May 1, 1885
Raleigh, N. C.	3	May 13	May 11, 1893
French Creek, W. Va.	2	May 10	May 9, 1893
Washington, D. C.	4	May 9	May 8, 1888
Englewood, N. J.	3	May 13	May 11, 1902
Beaver, Pa.	6	May 15	May 8, 1889
East Hartford, Conn.	7	May 13	May 10, 1894
Eastern Massachusetts	10	May 17	May 10, 1897
Southern New Hampshire	6	May 17	May 13, 1898
Southern New Brunswick	7	May 26	May 19, 1887
Godbout, Que.			June 3, 1884
Hamilton River, Que.			May 31
<i>Mississippi Valley—</i>			
St. Louis, Mo.	5	May 5	April 29, 1885
Chicago, Ill.	9	May 14	May 10, 1902
Waterloo, Ind.	6	May 15	May 10, 1903
Southern Michigan	8	May 17	May 11, 1888
Ottawa, Ont.	17	May 20	May 14, 1893



- | | |
|--|--|
| 1. BLACK-THROATED GREEN WARBLER, ADULT MALE. | 4. GOLDEN-CHEEKED WARBLER, ADULT MALE. |
| 2. BLACK-THROATED GREEN WARBLER, ADULT FEMALE. | 5. GOLDEN-CHEEKED WARBLER, ADULT FEMALE. |
| 3. BLACK-THROATED GREEN WARBLER, YOUNG FEMALE. | 6. GOLDEN-CHEEKED WARBLER, YOUNG FEMALE. |

(ONE-HALF NATURAL SIZE.)

WILSON WARBLER. continued

PLACE	No. of years' record	Average date of spring arrival	Earliest date of spring arrival
<i>Western America—</i>			
Mouth Rio Grande, Tex.	2	April 28	April 26, 1878
Grinnell, Ia.	5	May 11	May 4, 1890
Lanesboro, Minn.	9	May 8	May 2, 1887
Elk River, Minn.	4	May 14	May 11, 1886
Aweme, Man.	4	May 15	May 12, 1898
Ft. Chippewyan, Ath.	2	May 26	May 23, 1901
Southern Arizona			April 12, 1902
Loveland, Colo.	2	May 12	May 11, 1889
Great Falls, Mont.	2	May 25	May 23, 1892
Kowak, Alaska			June 3, 1899
Central California	4	March 30	March 23, 1889
Southwestern British Columbia	3	May 6	May 3, 1889

FALL MIGRATION

Some dates of the last one seen are at Newport, Ore., August 30, 1900; Berkeley, Cal., September 17, 1888; Columbia Falls, Mont., September 14, 1894; Cheyenne, Wyo., September 11, 1888; Cooney, N. Mex., October 9, 1889; Aweme, Man., average four years September 8; Lanesboro, Minn., average of four years September 20, latest September 25, 1887; Grinnell, Ia., average four years September 21, latest September 25, 1888; Ottawa, Ont., average four years September 19, latest September 29, 1890; Pictou, N. S., August 24, 1894; St. John, N. B., September 17, 1896, Renova, Pa., average six years, September 21, latest September 30, 1895; Germantown, Pa., October 15, 1889.

CANADIAN WARBLER

PLACE	No. of years' record	Average date of spring arrival	Earliest date of spring arrival
<i>Atlantic Coast—</i>			
Asheville, N. C. (near)	2	May 2	April 29, 1886
French Creek, W. Va.	4	May 9	May 4, 1893
Washington, D. C.	3	May 9	May 5, 1888
New Providence, N. J.	5	May 16	May 10, 1888
Englewood, N. J.	3	May 15	May 13, 1899
Philadelphia, Pa. (near)	6	May 15	May 10, 1890
Beaver, Pa.	5	May 5	May 3, 1899
Renova, Pa.	8	May 8	May 4, 1900
Southeastern New York	9	May 20	May 11, 1890
Lockport, N. Y.	5	May 15	May 11, 1889
East Hartford, Conn.	5	May 19	May 12, 1888
Eastern Massachusetts	12	May 14	May 10, 1896
St. Johnsbury, Vt.	4	May 21	May 16, 1900
Southern New Hampshire	8	May 18	May 13, 1902
Southern Maine	6	May 19	May 15, 1897
Montreal, Can.			May 28, 1891
Southern New Brunswick	7	May 28	May 22, 1886

CANADIAN WARBLER, continued

PLACE	No. of years' record	Average date of spring arrival	Earliest date of spring arrival
<i>Mississippi Valley—</i>			
San Antonio, Tex.	3	May 1	April 26, 1887
St. Louis	6	May 9	April 28, 1888
Chicago, Ill.	11	May 15	May 11, 1897
Waterloo, Ind.	5	May 2	April 28, 1903
Petersburg, Mich.	8	May 13	May 10, 1894
Northern Michigan	2	May 28	May 24, 1895
Listowel, Ont.	9	May 4	April 30, 1899
Parry Sound District, Ont.	4	May 21	May 17, 1887
Ottawa, Ont.	14	May 21	May 15, 1888
Lanesboro, Minn.	9	May 19	May 14, 1891
Northern Minnesota	4	May 23	May 21, 1900
Aweme, Man.			May 20, 1899

FALL MIGRATION

Some dates of the last seen are at Grand Rapids, Athabasca, August 20, 1901; Aweme, Man., August 30, 1901; Ottawa, Ont., September 5, 1890; Chicago, Ill., September 16, 1894; Waterloo, Ind., September 28, 1902; Petitcodiac, N. B., August 21, 1886; Pittsfield, Me., September 12, 1897; Amherst, Mass., September 29, 1891; Renova, Pa., average of six years, August 14; Germantown, Pa., October 1, 1889; Englewood, N. J., October 2, 1886; Bay St. Louis, Miss., October 15, 1899.



BROWN THRASHER

Photographed from nature by R. H. Beebe, Arcade, N. Y.

The Warbler Book

By FRANK M. CHAPMAN

IN BIRD-LORE for December, 1903, the editor mentioned briefly a proposed book on the Warblers of North America, and requested the aid of students of birds throughout the country in the preparation of this volume. Continued study of our birds emphasizes the absolute necessity for many observers if we are to have anything approaching adequate biographies of even a single species. Habits should be affirmed or denied only on the basis of abundant data; again, what proves true of a species in one part of its range may be incorrect in another; and we need, therefore, not only many observations from one place but from many places throughout a bird's range before we can write its life-history with an approach to thoroughness.

Coöperation, therefore, is the watchword of the bird-study of to-day. Instead of thinking that there is little left to learn, every bird student should feel that it is his special privilege to add to our knowledge of birds in nature. He may not make a novel or startling discovery, but he may confirm some observation which has already been made, and that, as a matter of fact, is second in value only to the original observation itself. An *act* may be attributed to a species on the basis of a single observation: but a *habit*, only after many observations.

The truth is, the best of our bird biographies tell the story of the individual rather than of the species. Life is too short for a single student to acquire a thorough knowledge of more than a few species of birds, and even then his experience is apt to be limited to a small part of their range. In the writer's opinion, the bird biographies in Bendire's 'Life History of North American Birds' are among the best if not the best of any which have been written. This is not solely because of Major Bendire's wide field experience and powers of observation, but also because he secured the coöperation of ornithologists throughout the country. It was not required that they should be skilled in painting pen pictures of bird-life; facts, not rhetorical flights, were wanted, and the result is one of the most satisfactory books of reference of its kind.

There is an object-lesson for us here. In our enthusiastic appreciation of the bird as a creature of rare grace and beauty, the final touch giving life to woods and fields, let us not forget that as bird students we are here more intimately concerned with the birds' habits than with the part they play as the 'jewels of creation,' when, with no loss of appreciation of the esthetic side of bird-life, we may make our bird biographies a storehouse of exact and detailed observations in regard to a bird's distribution, migrations, its manner of courting, singing, nest-building, incubating, caring for its young, the relation between its structure and habit, etc.

Our proposed study of the Warblers, then, may follow somewhat the lines just suggested. Stated more fully, it is requested that each bird on which a report is made be treated as follows:

Name of the Species.—Give the A. O. U. common and scientific names and any local name in current use.

Local Status.—Define the bird's manner of occurrence, whether summer resident, transient visitant, etc.; whether rare, common, or abundant, etc.

Migration.—Give the time of arrival in the spring from the South, the difference, if any, in the arrival of the sexes; the date when the species attains its greatest numbers; if a transient or winter visitant; the date when last observed. Give the date of departure of summer residents, of arrival and departure of transients and winter residents from the North. (See BIRD-LORE, III, 1901, p. 27.)

Song.—Describe call-notes and song, and any especial significance (e.g., in courtship or as a means of communication) which may in your opinion be attributed to them; any sexual difference in call-notes; whether female is heard to sing; duration of song period; giving earliest and latest dates when species is heard to sing; has it a second or fall song period; give station usually chosen for delivery of song,—ground, tree, etc.; is there a flight song? any seasonal variation in song? (See BIRD-LORE, III, p. 28; V, p. 56.)

Courtship.—Under this head note any obvious attempt by the male to win the attention of the female through display of plumage or of vocal powers.

Haunts.—Describe the character of the locality in which the species is found most commonly. Is there any seasonal variation in haunts?

The Nesting Site.—Give exact location of site or sites in which nests have been seen. Does either sex select the site? Is the same site ever used again for a second brood or in a subsequent year? (See BIRD-LORE, V, p. 57.)

The Nest.—Describe materials and shape; is it built by female or male, or both? Give time occupied in construction; date when finished.

The Eggs.—How long after the nest is completed is the first egg laid; when is the set completed? How many eggs does it contain? When does incubation begin; how long does it continue? Is it performed by the female alone? If by both sexes, is there any regularity in their daily periods of sitting? Is the sitting bird ever fed while on the nest?

The Young.—What is the appearance of the young at birth? If blind, when do the eyes open? How long after hatching before the young birds are fed? How are they fed? What is the nature of their food? Does the food or manner of feeding change as the birds grow older? About how often are the young birds fed at a given age? How is the nest kept in a sanitary condition? At what age do the young leave the nest; do they ever return

to it? How long after leaving the nest do the young birds remain under the care of the parents? How do the parents endeavor to protect the young? By scolding, direct attack, or feigning lame, etc. Have the young any characteristic calls? Is more than one brood reared in a season?

The writer earnestly hopes that he will receive the active coöperation of bird students in securing information regarding the habits of Warblers, along the lines suggested above. Do not neglect sending your observations because they are incomplete. Every fact will be welcomed and full credit will be given for all material used. Let us make this book of the Warblers a thoroughly representative and satisfactory piece of work, and lose no opportunity during the coming nesting season to add to our knowledge of these birds.

Bird Lists of the Massachusetts Audubon Society

In order to encourage systematic observation on the part of its members, the Massachusetts Audubon Society supplies them with check-lists of birds, with blanks to fill in the locality and date at which the species noted was seen or heard.

The best ten lists covering the period from January 1, 1903, to January 1, 1904, which have been returned to the secretary of the society, were prepared by the following observers: Pupils Tarbell Grammar school, 92 species; Louise Howe, 94 species; Catharine Cravath Whitaker, 100 species; James Lee Peters, 101 species; Samuel D. Robins, 107 species; Lilian Cleveland, 117 species; Elizabeth S. Hill, 120 species; Richard M. Hunt, 128 species; Isabel B. Holbrook, 132 species; Lilian E. Bridge, 156 species. All these lists are based on observations at several localities. The highest number of birds recorded from one place is eighty by Edwin Leonard, at Feeding Hills (Agawam). Mr. Leonard writes that all but one of these were seen or heard on his own premises, mostly about his house.

Books for sale or Exchange

FOR SALE

Studer's 'Birds of North America,' with one hundred nineteen colored plates.

E. G. IVES, *Dorchester, Mass.*

BACK NUMBERS OF 'THE AUK'

I would like to dispose of all my early volumes and back numbers of 'The Auk' (unbound and in good condition) at a very moderate price.

REV. A. T. GESNER, *Faribault, Minnesota.*

For Young Observers

Notes on the Birds of February and March, 1902

PRIZE ESSAY

By VINCENT E. GORMAN (aged 14 years), Montclair, N. J.

DURING the winter and spring of each year it is my custom to take short trips, generally into the rural district west of Orange Mountain, New Jersey, to look for birds. On these journeys I carry an opera-glass and a note-book, in which I record the number and kind of birds that I see.

My list for February, 1902, includes the Robin, Bluebird, Crow, Blue Jay, Red-tailed and Marsh Hawks, White-breasted Nuthatch, Chickadee, Downy Woodpecker, Golden-crowned Kinglet, Goldfinch, Junco, and the English Song, Chipping and Tree Sparrows.

I was rather disappointed not to find the Crossbill, Northern Shrike, and other winter visitors, but the winter had been too mild, I think, for them to venture so far south.

My first Robin was seen on Lincoln's birthday, and a Bluebird showed its patriotic colors a few days later. On February 20, a flock of Robins appeared, on their northward journey. It seemed like spring to have these neighbors back again, though the wind whistled past the telegraph wires and the ground was covered with snow.

Toward the end of March the Robins became more numerous. On one morning, between six and seven o'clock, I counted no less than 527 of them, all flying north. A few days previous to this I saw 336 Crows.

This winter I learned that the Blue Jay is capable of making a number of sounds other than its usual screams. While walking through the woods one day I heard a noise similar to that produced by an unoiled grindstone. I investigated, knowing that none of those implements were to be found in that vicinity, and were surprised to find the squeaks made by a Blue Jay.

The Goldfinches were scarcely recognizable in their winter dress, but when I drew near I could detect the yellow showing through the brown feathers. I was interested in watching a small flock which had headquarters in an old field. These birds could distinguish between the careless walk of a passer-by and the cautious manner of a bird student. When I approached stealthily they would rise and swing merrily to the other side of the pasture, calling "*ba-by! ba-by!*" as if to ridicule my endeavor to reach them. If, however, I changed my tactics, and walked rapidly past, with no attempt at concealment, they remained perfectly still.

A flock of Song Sparrows stayed through the winter, and seemed as

cheerful and contented as ever. They took up their abode in a thicket of seed-bearing bushes which furnished them with food.

At first I was puzzled by the Tree Sparrow, not having seen it before. I thought it some large kind of Chipping Sparrow, but a closer view, revealing a small dark spot on the throat, and other characteristics, served to change my opinion. While watching a flock of them in a meadow, I heard their soft, sweet, twittering song.

At the end of March I was able to add to my list the Red-winged Blackbird, Purple Grackle, Flicker, Canada Goose, Great Blue Heron, Meadow-lark, Phœbe, and the Field, Fox, and Vesper Sparrows.

The Purple Grackles came in tremendous flocks—in one I think there must have been a million or so of birds. The sound made by their chattering and the movement of so many wings resembled that made by the wind rushing through the dried leaves of an oak.

I saw my first Fox Sparrows and Meadow-larks on March 8. Although the Sparrows did not sing, I had an opportunity of seeing their peculiar habit of scratching with both feet at once. The flock contained seventeen birds, besides three of their cousins, the Juncos. These little birds acted as sentinels, one always being on guard, and whenever I approached too near it would fly up, flirt its gray and white tail, give a sharp '*chip!*' and the whole flock would take the alarm. The Meadow-larks were busily exploring a snowy corn-field for their dinners, now and then giving a shrill, piercing whistle.

In the Phœbe I had a good example of protective coloring. While in a swampy piece of woodland, I saw a bird fly into some alder bushes, but on investigation I could see nothing of it. For quite a while I examined the bushes, until a Phœbe flew from its perch, secured a fly, and returned. It had been sitting in plain view all the time, but, because its color blended so well with that of other objects, I was unable to detect it.

Next year I hope to be more successful in my observations, but, in the meantime, I intend to improve my knowledge of birds in every possible way, and I advise other bird-students to do the same.

The Prize Competition

Prizes for the best three essays on February Bird-Life have been awarded as follows: First prize, Anna D. White, Lansdowne, Pennsylvania; second prize, Henry Darling, Rockland, Massachusetts; third prize, Carl Lawrence, Groton, Massachusetts. Master Lawrence illustrates his article with several photographs made by himself.

Notes from Field and Study

A Plea for Bird Boxes

The majority of birds build their nests either in trees or on the ground, but we have a few that excavate a hole in a live or dead tree for their nest and also a few that build in any hole in a tree, bird-box, or, in fact, in any crevice which is a foot above the ground; and these are the birds for whose use I wish to ask the people who are interested in the increase of some of our most beneficial birds to nail up some tin cans or cigar-boxes in their orchards.

We have Audubon Societies all over our country that are striving to protect and increase bird life; they have had wonderful success and with hard work have achieved much, and these few words are written as a suggestion to help along a good cause.

The farmers of today keep all their fruit trees well trimmed, all dead wood cut out, and all old trees, which are a paradise to House Wrens, Bluebirds, Chickadees, Great-crested Flycatchers, Purple Martins and English Sparrows, are cut down and replaced by young trees. Thus these birds have hard work to find nesting sites, and I believe their numbers are much restricted by this cause. Take an average orchard of about twenty-five trees; say there are five cavities suitable for nests, which would be very liberal, for in many orchards you could not find one. If we start with a pair of Wrens, which average seven young to a nest and will raise two broods a year, in one year we have eight pairs of birds and only five suitable nesting sites. English Sparrows are gradually working from the cities out into the country, and as they do not migrate and use their nest for a roost in the winter-time, they are not long in finding these cavities in the trees; they build in them, and when our Wrens, Bluebirds and their less numerous companions arrive from the South they find their nesting site already occupied by Sparrows. Many of these birds then hang around and do not

nest the whole season, and if this continues it will much deplete our flocks of useful farm birds. My suggestion now is to put up bird-boxes for these birds. A tomato-can makes a good home for a Wren or a Bluebird. Bend the lid back, leaving a small opening; also remember to put one or two holes in the bottom so that it cannot fill with rain and thus drown out the birds, as often happens in cavities in trees, and you have a very durable bird-house which will last several years. These birds as a class feed only on insects, bugs, caterpillars, etc., and farmers would find them very useful in protecting their trees and crops.

I do not think that English Sparrows will nest in anything as small as a tomato can, but if they do they may easily be kept out by making the opening in the box or can only one and one-eighth inches in diameter. A Wren may easily get in and out of this, but it would keep out the Bluebirds with the Sparrows. Many farmers have one or two bird-boxes near the house, but they never think of erecting any in the orchard.

I put up twenty cans and cigar-boxes last year in an orchard, of which fourteen were used, ten by Wrens and four by Bluebirds. In the orchard I could find only one cavity; this was not used, as the birds that had occupied it the previous season used a tin can instead.

I believe many birds do not nest because they do not find suitable nesting sites. Birds return to the same nesting site year after year, and it is very hard on them if, when they come back, they find their favorite tree cut down or, as often happens, that the nest is being used by English Sparrows. I do not contend, as some do, that the English Sparrow drives all our native birds away by fighting; he does it another way. He takes possession of their nest in the winter time when the owners are South, and when they come back they are seldom able to

drive out the Sparrows, who by this time generally have young in the nest. No one can blame them for defending their eggs or young against birds they have never seen before. Nothing is too small for Wrens to build in, and nothing too large; whatever they build in, they will fill up all waste space with sticks. Tie up a paper bag, put a hole in the side and a Wren will use it for a nest. This shows how hard up they are for nesting sites; so why can we not help them out,—every one do a little?

In the vicinity of New York Bluebirds begin to build the first week in April and House Wrens the first week of May.

The boxes should be put up in March, but I have had a box used which I put up as late as June 1.—JOSIAH CLARK.

An Unusual Nest of the Cliff Swallow

Many years ago a colony of Cliff Swallows annually domiciled under the eaves of a neighboring barn. Upon the introduction of the European House Sparrows, I noticed that they occupied the old nests before the migrants arrived in spring, and annoyed the Swallows so that they left in despair. In 1901 and 1902 a colony of Cliff Swallows built under the eaves of Mr. Paul Fuller's barn, in Wykoff, N. J., and in 1902 they built in a barn at Saddle River. In the latter place there was nothing in the shape of a projection under the eaves, to serve as a foundation for a nest. So the birds had some failures in building. One pair, with apparently more intelligence than the rest, took advantage of a ledge which did duty as weather strip over the top edge of a wicket door, as here shown in a photograph by Mr. Winfred Smith. After the nest was deserted it was taken down and presented to the American Museum of Natural History. The distance from the top of the ledge to under eaves is about eighteen inches. This distance was reached by building a cylinder tube of clay worked up with short straw, and filled with straw up to a height where it would just have room enough to build the nest on top; all of which was perfectly done, and the birds had the happy satisfaction of rearing

their young on this ingenious construction. Now it is evident that the pair of birds surveyed the situation and built this remarkable structure without any attempt at a nest until they reached the desirable distance to construct their nest, so they could reach the ceiling of the eave to fasten the nest to. It seems to me to be a case of adaptability for which an unreasoning instinct does not satisfactorily account.—HENRY HALES, *Ridgewood, N. J.*



AN UNUSUAL NEST OF THE CLIFF SWALLOW

A Winter Mockingbird

This morning (Feb. 16, 1904) the thermometer registers two degrees below zero, and a Mockingbird has eaten several times at his box against the house where I can reach it from a window and keep the food in order. He has been to this box every day since December 5, many days procuring from it all the food he has had—the snow covering everything else. Many nights the temperature has been several degrees below zero and he has weathered it, to our amaze-

ment. He is extremely tame, comes many times almost immediately after we call him.

This bird was first discovered in the neighborhood the second week in July, 1903, bringing with him the most beautiful song. He has been heard from every day since and we have not known of his leaving the block, which is about 800 feet long, with a range of about 400 to 600 feet wide. It has been my satisfaction to locate him every day (except when out of town on a short vacation).

He sang until late in November, sitting on a cedar hedge back of our house, pouring forth every kind of bird note in a low strain, lonely in its tone after all the other birds had gone. Since then he has had a sharp little call, like that of a Catbird, and has given a few Thrush notes answering to our call, but no song. He is having to eat the food prepared for such birds, with carrot, and, when the weather permits, he has cooked squash, cranberry sauce, apple, meat and potato; but the Mockingbird food is the only thing that does not freeze solid, and he is fond of it.

We have had the coldest, hardest winter known here for many years, and it certainly is very wonderful that he has survived.—
MRS. CARROLL E. BOWEN, *Rochester, N. Y.*

A Large Phoebe's Nest

There is a suggestion in the picture of 'A Large Phoebe's Nest' on page 199 of November and December Bird-Lore. A Black Phoebe built her nest in a cigar-box which I had nailed under the eaves of the stable. The top of the box was several inches beneath the sloping eaves directly above it. She raised a brood in March, and, re-lining the nest, again in July. Next year she commenced operations in the same nest, when a Linnet took possession in the absence of Phoebe. Linnet built an addition to suit herself, continuing the nest straight up, with the line of demarcation very plain between the mud and lichens of Phoebe and her own straws and cotton. Phoebe watched her chance and took possession as soon as the young Linnets had gone, building the nest a little higher. Next year Linnet got it first, and so she and Phoebe alternated until

seven stories rose above the original design. The structure began to lean a little, and then the Swallows took it and built out toward the east their bottle nest. The mud was too heavy and the whole sky-scraper or, better, eaves-scraper, tumbled to the ground. Mr. Stone's picture suggests three stories nicely made. I have known the Linnets to lay story after story in nests of their very own year after year.—ELIZABETH GRINNELL, *Pasadena, California.*

A Swallow and Flycatcher Feud

In a ranch-house snug against the foothills in western Texas there lived for many years an old Judge who was a good friend of the birds. He never allowed any shooting on his premises, and when we were there the trees and bushes around the house were alive with birds, while his piazza was possessed by a pair of the buff-breasted, black-tailed Say's Flycatchers, and several families of the blue-coated Barn Swallows.

For three years the Flycatchers had been contesting the ground with the Swallows. To encourage the Swallows, the Judge had nailed a piece of tin under two of the piazza rafters, and the birds had shown their appreciation of his kindness by promptly building there; but, sad to relate, no sooner had they finished the feather lining of the nest than the Flycatcher fell upon them and evicted them from their own premises.

At the time of our visit, Saya was serenely brooding six white eggs in the Barn Swallow's nest; but, not content with her conquest, whenever the mood seized her she would send the whole colony flying from the piazza and light in a tree, snapping her bill and shaking her tail with deplorable gusto.

The old friend of the Swallows watched the usurpers with disapproval, and exclaimed emphatically, "If they don't quit that monkey business I'll have to stop it. The Swallows were here first." Then, looking fondly at his favorites, he added, with enthusiasm: "I have a string stretched across the piazza, and they come and sing to me while I read. I wouldn't have them disturbed for twenty dollars apiece."—FLOR-
ENCE MERRIAM BAILEY, *Washington, D. C.*

Book News and Reviews

THE BIRDS OF OHIO. A complete scientific and popular description of the 320 species of birds found in the state, by **WILLIAM LEON DAWSON, A.M., B.D.**, with introduction and Analytical Keys, by **LYNDS JONES, M.Sc.** Illustrated by 80 plates in color-photography and more than 200 original half-tones. Sold only by subscription. Columbus. The Wheaton Publishing Co. 1903. 4to. xlv+671 pages.

This volume should exert a marked and far-reaching influence, not only on the study of birds in Ohio, but on the general attitude of the people of the state toward its feathered inhabitants. The book's real worth will commend it to the student, its beauty will claim the admiration of the bibliophile, and its size alone will command the attention of that not small portion of the community whose measure of values is one of dimensions.

The present, however, is a case of quality as well as quantity. We are given keys to orders, families and species; detailed descriptions of plumage, with a special paragraph for "Recognition Marks," descriptions also of nests and eggs, and a statement of the "general" as well as Ohio range of every species. Then follows biographical matter, with very frequently a photograph from nature of the bird or its nest, or its characteristic haunts. Lack of space forbids detailed criticism, but we may say in brief that the authors have given us the most attractive and valuable work on the ornithology of a single state which has yet appeared.—F. M. C.

WITH THE BIRDS IN MAINE. By **OLIVE THORNE MILLER.** Boston and New York: Houghton, Mifflin and Company. 16mo. ix + 300 pages.

We are very glad to welcome this new volume of bird studies by Mrs. Miller. There are few writers who have succeeded so well in expressing the potentialities of bird companionship; who so clearly voice the pleasures of making friends with and of the birds.

Some fifty species of birds receive greater or less attention in this book, most of the studies being made in Maine.—F. M. C.

CASSINIA: PROCEEDINGS OF THE DELAWARE VALLEY ORNITHOLOGICAL CLUB, VII, 1903. 8vo. 88 pages.

The proceedings of this active organization always contain much matter of general ornithologic interest. In the present number, for example, the papers by Witmer Stone or "John Kirk Townsend," by S. N. Rhoads on the disappearance of the Dickcissel from the Atlantic slope, by H. L. Coggins on the travels and flight lines of Crows in southeastern Pennsylvania and the adjoining portions of New Jersey, and by W. L. Baily on a night flight of birds at Mt. Pocono, are not only unusually readable but exceptionally valuable. There are also contributions by Spencer Trotter, 'The Red-headed Woodpecker as a Pennsylvania and New Jersey Bird,' J. A. G. Rehn, 'Notes on the Summer Birds of Lehigh Gap, Pennsylvania,' and H. W. Fowler, 'Water Birds of the Middle Delaware Valley.' Mr. Stone presents a 'Report on the Spring Migration of 1903,' based on observation by numerous club members and others living near Philadelphia, and there is an 'Abstract' of the proceedings of the club for 1903. It appears that the average attendance of members for this period was twenty. Is there any other local ornithological club in the country with so good a record? If not, why not?—F. M. C.

BIRDS OF CALIFORNIA: An introduction to more than three hundred common birds of the state and adjacent islands. By **IRENE GROSVENOR WHELOCK.** With ten full-page plates and seventy-eight drawings in the text by Bruce Horsfall. Chicago: A. C. McClurg & Co. 1904. 12mo. xxviii + 578 pages.

This book is a noteworthy contribution to the literature of ornithological biography. The author states that "field notes begun in 1894 . . . form the basis of the following pages" and give a list of twenty localities

from the Colorado River and San Diego to Mt. Shasta; from the Farallones to Tahoe, at which she has pursued her studies of birds chiefly during the nesting season.

The most important result attending her observations on the life of the nest is expressed in the statement "that the young of all macrochires, woodpeckers, perching birds, cuckoos, kingfishers, most birds of prey, and many sea-birds are fed by regurgitation from the time of hatching through a period varying in extent from three days to four weeks, according to the species." The author adds: "Out of one hundred and eighty cases recorded by the author, in every instance where the young were hatched in a naked or semi-naked condition they were fed in this manner for at least three days."

Few American ornithologists, we imagine, are familiar with the feeding habits while in the nest of one hundred and eighty species of birds, and Mrs. Wheelock's evidently wide experience commands for her observations the respectful consideration of those who have not been privileged to have her time and opportunities for field work.

Her biographies abound with interesting and novel descriptions of the habits of birds. The individual is sometimes made to stand for the species, and it remains for students of Californian bird-life to ascertain whether many of the observations presented are normal or exceptional. The book should therefore prove a potent incentive to California field workers, and assuredly no one who proposes to study the habits of birds in the West can afford to be without it.—F. M. C.

The Ornithological Magazines

THE AUK.—The January number, while bulky, is filled with good reading and is well illustrated. The report of the A. O. U. bird protection committee by William Dutcher occupies over one-half of the 208 pages, and covers in detail the work of legislatures, wardens and Audubon Societies. Most gratifying results have been effected with slender means, although the details of this very long report almost

smother the facts which might have been made more readily available by judicious summarizing and tabulation.

W. K. Fisher has secured most interesting pictures of the Albatrosses of Laysan Island, where the clumsy birds bow and dance and even apparently execute cakewalks. His avi-biography of this immense nation of strangely tame birds reads like the fairy tale of an unknown land. A. C. Bent writes on the 'Nesting Habits of the Herodiones of Florida,' illustrating with photographs the nests and young of the Roseate Spoonbill and White Ibis, while a good portrait and sketch of the life of the late Thomas McIlwraith is furnished by A. K. Fisher. A couple of local lists deserve attention; one by E. S. Currier on the 'Summer Birds of the Leech Lake Region, Minnesota,' the other by O. Widmann on 'Yosemite Valley Birds.' The latter, although an 'opera-glass' list, is accurate and sets a standard for the possibilities of this sort of observation.

There is an extremely readable article by Spencer Trotter on 'Some Nova Scotia Birds,' and one by H. H. Kopman on bird migration near New Orleans. The arrival of fall migrants in numbers early in August bears out the testimony of other observers, but whether these birds are all adults, as has proved to be the case elsewhere, is a matter for future investigation. Other titles for the reader not already surfeited, are 'The Correct Name of the Pacific Dunlin,' by S. A. Buturlin; 'An Abnormal Bill of *Melanerpes portoricensis*,' by B. S. Bowdish, and 'The Exaltation of the Subspecies,' by J. Dwight, Jr. Those who have their 'Auks' bound without covers should be warned that the back cover contains 'Publications Received,' which has heretofore been paged as a part of 'Recent Literature.' This department, by the way, opens with a timely and pertinent review of some of the stuff that the rage for nature fiction has called forth.—J. D., Jr.

THE CONDOR.—The sixth volume of 'The Condor' opens without special announcement, beyond the statement that the

record of the past year may be taken as a guarantee of the standard for 1904. This is certainly very satisfactory as far as illustrations are concerned, if the frontispiece of the California Vulture from a drawing by Fuertes and the half-tones from Beck's photographs of Galapagos Island birds are samples of the illustrations which are to follow.

Under the title, 'Afield at Flathead,' Silloway contributes some interesting notes on several birds, and reports on the condition of the colony of Holboell's Grebes at Swan Lake during the past summer. Mailiard publishes some important records supplementary to Grinnell's 'Check List of California Birds,' and includes the first record of the occurrence of the Rusty Blackbird (*Scolecophagus carolinus*) in the state. Swarth discusses the subspecies of Cactus Wrens which have been recently described, and also records the capture of a Scott's Oriole in the San Fernando Valley on November 2, 1903. Under the name of *Regulus calendula cineraceus* Grinnell describes the Ruby-crowned Kinglet from Mt. Wilson, Los Angeles county, Cal., as a new subspecies. The number closes with a 'Directory of Members of the Cooper Ornithological Club,' from which it appears that the Club now has about 200 members and since its organization has lost 13 members by death.—T. S. P.

BULLETIN OF THE MICHIGAN ORNITHOLOGICAL CLUB.—Four quarterly numbers of the revived 'Michigan Bulletin' have been issued, completing Volume IV. These are creditably edited and contain many valuable contributions, relating mainly to the ornithology of the state which the Club represents.

Perhaps the most important paper in the June number is that by Mr. A. B. Covert, on 'The Recent Capture of a Kirtland's Warbler in Michigan,' and several supplementary notes describing the discovery of the nest and eggs of this rare bird by N. A. Wood. In the September number, besides several papers dealing with the nesting of various birds in the state, we have an interesting reminiscence by Mr. James B.

Purdy on 'The Passenger Pigeon in the Early Days of Michigan,' in which he describes the methods of trapping these birds in vogue during his boyhood.

In the December number of the Bulletin Mr. J. Warren Jacobs contributes some supplementary 'Purple Martin Notes,' from Waynesburg, Pa., while E. G. Mummery writes of the 'Nesting of the White-breasted Nuthatch,' and Edw. Arnold on the Sandhill Crane. Numerous shorter notes testify to the activity of the Club.—W. S.

JOURNAL OF THE MAINE ORNITHOLOGICAL SOCIETY.—The January number marks the beginning of Vol. VI, under the editorship of Mr. J. Merton Swain. The Journal has been largely devoted to local ornithology and has increased in size and importance since the organization of the Society. Mr. A. H. Norton continues his 'Notes on Maine Finches,' while an account of the eighth annual meeting of the Society, several popular articles and some local notes make up the number.

It would seem particularly desirable that the various journals now issued by local ornithological clubs should,—as they do in a measure,—devote themselves exclusively to the birds of their own or immediately adjoining states. They thus acquire a peculiar value in our ornithological literature and have a definite function to fulfil.—W. S.

WE take pleasure in announcing that Mr. Witmer Stone has joined BIRD-LORE's force of reviewers.

THE November, 1903, issue of the Bulletin of the New York Public Library (VII, 11, pp. 407-446) contains a series of letters written by Sir Charles Blagden to Sir Joseph Banks, while the former, as an officer in the British Navy, was stationed at Charleston, Reedy Island, Delaware, New York and Newport during the Revolution. These letters contain much interesting natural history material, and an annotated list of specimens, chiefly of birds and fish collected in Rhode Island, is of genuine scientific value.

Bird-Lore

A Bi-monthly Magazine

Devoted to the Study and Protection of Birds

OFFICIAL ORGAN OF THE AUDUBON SOCIETIES

Edited by FRANK M. CHAPMAN

Published by THE MACMILLAN COMPANY

Vol. VI Published April 1, 1904 No. 2

SUBSCRIPTION RATES

Price in the United States, Canada and Mexico twenty cents a number, one dollar a year, postage paid.

COPYRIGHTED, 1904, BY FRANK M. CHAPMAN

Bird-Lore's Motto:

A Bird in the Bush is Worth Two in the Hand

DURING April and May the Editor expects to be afield, often beyond the reach of mail, and he begs the indulgence of his correspondents during this period.

Birds and Farmers

The investigations of economic ornithologists have so clearly established the value of birds to the farmer that one might imagine their labors ended with the publication in easily accessible form of the results of their work. The average farmer, however, is the most conservative of men. His knowledge of agriculture has usually been gained by the hard, expensive, practical experience of many years. He is self-reliant and consequently regards innovations in methods of fertilizing, planting and tilling with more or less distrust and adopts modern ideas with caution. He is so constantly at war with the elements and nature that he is apt to believe that every living creature, from man to grubs, is the farmer's especial enemy. A Cooper's Hawk is seen capturing a chicken and all Hawks are condemned; Crows pull his corn and Robins eat his cherries, and birds in general become grain and fruit thieves.

Insects, furnished with an artificial food-supply by certain crops, become so abundant that it is difficult for him to believe that birds are in any sense a check on the increase of insect life. We recently heard a prominent fruit-grower, president of a horticultural society, state before a legislative com-

mittee that he didn't believe birds were of the slightest value to the fruit-grower, who, in his opinion, would be just as well off if there were no birds at all. He had to spray anyway, and it would be just as easy to spray a little more and let the birds go. He unfortunately failed to say whether he would extend his spraying operations to all vegetation subject to insect-attack, though it is quite probable he would have been willing to let the world take care of itself, provided his orchard was preserved.

A writer in 'The Rural New Yorker' says, "Farmers and fruit-growers surely have the right to expect accurate information as to the economical value of the wild birds likely to be encountered on the farm, from the many official investigators employed by colleges and experiment stations; but the actual status of certain species, according to common observation, is widely at variance with that assigned by writers and teachers of ornithology." A bird's economic value, however, is not to be ascertained by "common observation." A very uncommon kind of training is required to fit one properly to study the food habits of birds and to learn therefrom the place of the species in the economics of nature and agriculture. Nor can the best equipped observer hope to reach satisfactory conclusions merely from observing the bird out-of-doors. This is an important side of his work, but it must be supplemented by detailed stomach analyses wherein he avails himself of the services of specialists in other departments of science—entomology, botany, mammalogy, etc. Furthermore, the investigators in this field are not "many" but pitifully few, nor can we hope that the subject will be adequately and thoroughly studied until each state in the Union realizes its importance, and takes the steps needed to inaugurate a series of investigations. No individual, unaided, can conduct successfully thorough studies of the food of birds. If the farmers and fruit-growers, therefore, will aid the economic ornithologist he will be very glad to avail himself of their assistance, and in the end they will be benefited by the researches to which he is devoting his life and which are made in the agriculturists' interests.

The Audubon Societies

*"You cannot with a scalpel find the poet's soul,
Nor yet the wild bird's song."*

Edited by MRS. MABEL OSGOOD WRIGHT and WILLIAM DUTCHER

Communications relating to the work of the Audubon and other Bird Protective Societies should be addressed to Mrs. Wright, at Fairfield, Conn. Reports, etc., designed for this department should be sent at least one month prior to the date of publication.

DIRECTORY OF STATE AUDUBON SOCIETIES

With names and addresses of their Secretaries

California.....	MRS. GEORGE S. GAY, Redlands.
Colorado.....	MRS. MARTHA A. SHUTE, Denver.
Connecticut.....	MRS. WILLIAM BROWN GLOVER, Fairfield.
Delaware.....	MRS. WM. S. HILLES, Delamare Place, Wilmington.
District of Columbia.....	MRS. JOHN DEWHURST PATTEN, 2212 R street, Washington.
Florida.....	MRS. I. VANDERPOOL, Maitland.
Georgia.....	PROFESSOR H. N. STARNES, of Experiment.
Illinois.....	MISS MARY DRUMMOND, 208 West street, Wheaton.
Indiana.....	W. W. WOOLEN, Indianapolis.
Iowa.....	MRS. L. E. FELT, Keokuk.
Kentucky.....	MISS JULIET O. ALVES, Henderson.
Louisiana.....	MISS ANITA PRING, 1449 Arabella St., New Orleans.
Maine.....	MRS. C. B. TUTTLE, Fairfield.
Maryland.....	MISS ANNE WESTON WHITNEY, 715 St. Paul street, Baltimore.
Massachusetts.....	MISS HARRIET E. RICHARDS, care Boston Society of Natural History, Boston.
Minnesota.....	MISS SARAH L. PUTNAM, 239 8th ave., S. E., Minneapolis.
Missouri.....	AUGUST REESE, 2516 North Fourteenth street, St. Louis.
Nebraska.....	MISS JOY HIGGINS, 544 South 30th street, Omaha.
New Hampshire.....	MRS. F. W. BATCHELDER, Manchester.
New Jersey.....	MISS JULIA SCRIBNER, 510 E. Front street, Plainfield, N. J.
New York.....	MISS EMMA H. LOCKWOOD, 243 West Seventy-fifth street, New York City.
North Carolina.....	T. GILBERT PEARSON, Greensboro.
Ohio.....	MRS. D. Z. MCCLELLAND, 820 West Ninth street, Cincinnati.
Oklahoma.....	MRS. ADELIA HOLCOMB, Enid.
Oregon.....	MISS GERTRUDE METCALFE, 634 Williams ave., Portland.
Pennsylvania.....	MRS. EDWARD ROBINS, 114 South Twenty-first street, Philadelphia.
Rhode Island.....	MARTHA R. CLARKE, 89 Brown street, Providence.
South Carolina.....	MISS S. A. SMYTH, Legare street, Charleston.
Tennessee.....	MRS. C. C. CONNER, Ripley.
Vermont.....	MRS. FLETCHER K. BARROWS, Brattleboro.
Virginia.....	MRS. J. C. PLANT, Glencarlyn.
Wisconsin.....	MRS. RUBEN G. THWAITES, 260 Langdon street, Madison.
Wyoming.....	MRS. N. R. DAVIS, Cheyenne

A Word to the Wise Concerning Trees, Etc.

In many of the various reform movements it is not always a question of what to do, but what to let alone. In our efforts to give the native birds all the legal protection possible we must remember that we can in no way coerce the birds themselves to remain in given localities, if we by our zeal for so-called agricultural thrift and village improvement render those places unsuitable for bird residence.

The farming population in general has always had a fatal habit of going out in the

between seasons of sowing and reaping and doing direful things in lanes and along field edges with stub scythe and bush-hook, two instruments that, to my mind, should be proscribed by law; but lately a new element has entered the field,—the amateur who buys up the old farm, in a sightly location, for a summer home, and this class is now legion.

This biped usually has some sense of the picturesque, and yet the first thing he does is to hire a stupid Slav to "clean up" the underbrush while he is formulating his plans. Now take it the year round, underbrush, i.e., briers, bushes of all sorts, from the spreading juniper growing beneath the

height of forest trees, up through alders, bayberry, barberry, dogwoods, white birches, cedars, to choke- and black cherries of tree size, is of greater importance to bird-life than the forest trees themselves. Yet the man who will rightly hesitate to fell a decrepit elm because it harbors the Baltimore Oriole or a Robin or two in high crotches, will thoughtlessly order the wholesale clearing of some brush lot with its pointed cedars, through which perhaps a little water-course wends its way, and in so doing dislodge the homes of a bevy of Yellow-throats, Chats, Indigo-birds, Thrashers, Catbirds, Redwings, etc., besides drying up the water-course and fatally interfering with the cover and food-supply of our winter residents, even including the game-birds.

We make resolutions every time that spring retouches us with its magic and the spirit of forestry whispers to plant more trees to shade our water-courses, more trees to intervene between ourselves and the sun, more trees to yield shelter and food to the birds, in foliage, fruit, and bark crevices; and it is good to plant, but better yet to refrain from destroying. The tree or bush we plant may or may not be suitable to the location and grow, that which we destroy has already proved itself by flourishing, and we may judge of its merit by experience. Also the responsibility of replanting and introducing perhaps new species of wild fruits into a locality is almost as great as that of importing new species of birds. For instance, the black wild-cherry (*Prunus serotina*) of the middle states, growing in bushy clumps when headed back, but, left alone, growing to be a large tree, is a fashionable summer resort for birds of high and low degree for six weeks or so, when they collect from far and wide to take a course of its fruit in all states of ripeness and unripeness.

One would naturally think it a tree to be planted freely in time of need, even as the birds themselves sow it freely, *via* the undigested stones of the cherries they swallow. Instead of which, it is a species doubly to be avoided. In the first place, it harbors the unsightly nest of the tent-caterpillar, one of

the greatest blots on the wayside landscape, and, secondly, it is highly dangerous to a cattle-grazing country or for the home pasture, as the leaves eaten *when withered*, owing to the prussic acid in them, will destroy cattle by a sort of paralysis of the lungs, and as the species is prone to be wind-broken on slight provocation, the extent of its mischief can be easily estimated.

Alders for screening, the flowering dogwood and magnolias (whose berries are beloved of the Hermit Thrush), grape-vines, black currants, and the hardiest varieties of raspberries and blackberries are all safe things to plant near tumble-down walls if there is a sufficient depth of soil. The white-flowering elder, with its flat clusters of rich juicy berries, will flourish in any damp spot, as will also the winterberry (*Ilex verticillata*), while the Chinese honeysuckle and the Virginia creeper should be scattered broadcast for the sake of their berries.

One tree there is that should be regarded as a thing sacred, like the oak, and equally protected—the red Cedar, which, like the red man himself, retreats before cultivation and is almost unplantable. Its closely twigg'd branches make it impervious to storm and offer a fine winter roost, and its purplish berries with the hoary bloom yield living rations when all below is frozen and inaccessible—nay more, when laid low by storms its very broken branches are in themselves a city of refuge. To a fallen cedar top, meshed with vines and lying near a tumble-down wall of an empty farm, was I in debt last year for the joy of having a pair of Carolina Wrens and their two broods for neighbors. But alas! what will happen if the new purchaser of the land 'improves' his back fence?—M. O. W.

National Committee Notes

BY THE CHAIRMAN

"Or what man is there of you, whom, if his son ask bread, will he give him a stone?"—Two months since, the Chairman asked for promises of aid in the important matter of incorporation of the National Audubon Committee, in order that it might be in a position to appeal to the public for

a permanent endowment fund. Not a suggestion or helpful word has been received. Is not this giving a stone when bread was asked? Bird-protection work has only just commenced, and the several societies must not consider their duty done if they look well after their local interests; there is the broader field of national work that must be carried on by the joint efforts of each society; the strong must help the weak. The Heron Leaflet, Educational Leaflet No. 7, has been called for from unexpected quarters. The Millinery Merchants' Protective Association asked for 500 copies, to be distributed among its members, and a prominent wholesale millinery firm in Ohio sent for 1,000 copies, which they volunteered to distribute among their customers. The British Society for the Protection of Birds sent for 2,500 copies, as they desired to send one to each subscriber to their organ, "Bird Notes and News." The press noticed this leaflet more freely than any other publication ever issued by the National Committee, some papers publishing the entire text, with an illustration.

The suggestion of the National Committee that the children of the country feed the birds during the severe winter weather was sent out as a news item by the Associated Press, and undoubtedly was the direct means of saving thousands of birds.

Legislative matters are in a ferment at the present time. In Rhode Island a bill has been introduced to prohibit the sale of Ruffed Grouse and also to make the close season for shore-birds from January 1 to July 15, thus preventing the wasteful practice of spring shooting.

In New Jersey the bill to permit the killing of Robins, Highholders, Catbirds and Meadowlarks was defeated by an almost unanimous vote. In Virginia an effort is being made to repeal the anti-spring-shooting law for shore-birds passed in 1903; also, to take protection from Doves, Hawks, Owls and the Nighthawk. The result is still doubtful, notwithstanding the efforts of the National Committee and several senators and delegates who worked so faithfully last year for the passage of the excellent law now in force in Virginia. In South Caro-

lina a bill was introduced following the A. O. U. model law, but was adversely reported by the Committee on Agriculture to whom it was referred. They recommended "that it be not passed, as it was too sweeping." It is evident that a large amount of education is needed in South Carolina when an agricultural committee refuses to recommend a law which was especially intended to benefit the farmer and protect their interests.

In Mississippi a non-game-bird bill was introduced and was almost unanimously passed in the House of Delegates. It is now before the Senate and will probably become a law, as Gov. A. H. Longino, in his annual message to the Legislature, recommended "that a law be passed protecting from slaughter all birds, except game-birds, throughout the entire year." In Iowa the model law is before the Legislature, but its adoption is somewhat doubtful, although the State Audubon Society and the National Committee are doing all that is possible to push it. A bill to prevent trap-shooting of tame Pigeons was passed and is now a law.

Truly the Audubon Societies have much educational work still to do. The millenium period of bird-protection is still far distant, especially the phase connected with legislation.

Audubon work is progressing finely. In Maine the Ornithological Society has just appointed a committee of five members who desire to place their state in the front rank of bird protectors and lovers. In Colorado a second Junior Audubon Society was organized February 22, with over 340 charter members. This is excellent work, and the National Committee recommended that the several state societies push this branch more diligently. In Alabama there is every probability that an Audubon Society will be organized in a short time. In Michigan, also, active steps are being taken by the Ornithological Society to advance Audubon methods, and to that end Mr. T. Jefferson Butler has been elected the Audubon Secretary. A society will, undoubtedly, be organized in California before the next issue of BIRD-LORE. Funds for the work of the

National Committee are coming in rather slowly. However, the wardens will all be re-engaged for the coming breeding season, trusting that before pay-day is reached the necessary money for wages will be in hand. Mayhap some person will read these lines who will be touched by our necessities and will give the initial \$10,000 to start the permanent endowment fund.—W. D.

Public Sentiment and Bird Protection

Though it is not yet true of some of the southern states, it is probably no exaggeration to say that in nearly all the rest of the union the people who favor bird-protection laws that will really preserve our useful and harmless species of birds and animals, and not simply postpone a little their final extinction, now greatly outnumber those who oppose them, and that they could have their own way if they would insist upon it.

Market gunners and plume hunters, those who make a special business of dealing in game, the semi-professional sportsman who spends all his time in shooting, are but an insignificant portion of our population, but they are doing most of the harm.

They make their desires known, they express their opinions, and use their influence and money to be allowed to continue their destructive work. For the future they care nothing; they would willingly shoot the last Wild Turkey or Wood-duck for sport or for sale. They want their fun, and their agreeable way of making a living by destroying and selling the game which is the property of the whole body of citizens of their respective states.

That the determination and activity of this small minority is able to make futile the work of the far more numerous class which is opposed to them, is due to the indifference and negligence of the latter, not to a lack of power to assert its rights and protect its property.

Assuming that you take a personal interest in bird protection, do you realize that it is the duty of those so interested not to hide their opinions and desires under a bushel but to make them known and felt? They

will be surprised to find how many people will agree with them. How can those intrusted with the making and enforcement of our laws know what the opinion of the public really is about a matter where only one side, and that a small minority, make themselves heard? Most of us do not wish, in fact most of us are not in a position where we can afford to lose the good will of those about us by undue activity in criticizing or making complaints. We do not always need to. We can do as much good, or often more, by encouraging or helping those who are doing well, as by finding fault with those who are not.

Is there any society in your town or state which is working for bird protection? If so, have you taken interest enough to join it? Probably you are not so situated that you can take an active part in their work, but every name, even an obscure one, added to their membership list encourages and increases the influence of those who can and do work. They are meeting with much opposition, and, what is still worse, indifference, and they need all the backing up that we can give them.

Have you a representative in your district who works hard for better game-laws, or would work for them if he thought the people wanted them, or a game-warden who is diligent and courageous? If so, you may be sure that many people are doing their best to make trouble for him. Does he know that he has your approval and sympathy, and do you ever call the attention of others to his good work? Is it not likely that a word of thanks or encouragement, if you know them, or a note of a few lines expressing your appreciation of their services, even from a stranger, would do more good than ten times the amount of complaint and criticism directed against people who are probably indifferent to it?

We should not forget that each of us is, according to law, a part owner of the birds which are being exterminated for the amusement and gain of a comparatively few individuals, and that, as in the case with property of other kinds, we must either provide for their preservation or lose them entirely.—WILLARD G. VAN NAME.

NATIONAL COMMITTEE OF AUDUBON SOCIETIES

EDUCATIONAL LEAFLET NO. 8



THE MARSH HAWK

Order—*Raptores*

Suborder—*Falcones*

Family—*Falconidæ*

Genus — *Circus*

Species — *Circus hudsonius*

The Marsh Hawk

By WILLIAM DUTCHER

Chairman National Committee of Audubon Societies

DESCRIPTION

Adult Male.—General appearance above bluish gray, darker on hindneck and lower back. Terminal half of long wing feathers almost black. Tail bluish, with seven or eight blackish bands; all except two central feathers with much white. Under parts throat and upper breast ash-gray; all of balance white, quite profusely decorated with light brown dashes, lines and heart-shaped spots.

Adult Female.—General appearance above dark brown, some feathers with large whitish or light cinnamon-brown spots; tail brownish, broadly barred with blackish and very pale cinnamon. Under parts of body whitish, profusely marked with very large shaft streaks of pale hair-brown on breast and cinnamon-brown on lower belly and thighs. Under parts of wings and tail very broadly barred with whitish.

Immature.—Somewhat similar to female but darker above and under parts almost entirely rich rufous, streaked with black on upper breast and flanks. Bars in tail cinnamon instead of whitish.

Size.—Male, from end of bill to tip of tail about 19 to 20 inches; female is much larger, 22 to 24 inches. Both sexes have black bills and claws and yellowish or flesh-colored legs and feet.

Distinguishing Marks.—The owl-like disk of short feathers about face; the very long tail; the very conspicuous patch of white feathers at base of tail, which show distinctly when flying; the slow, deliberate manner of flight, which is usually close to the ground.

Nest.—Always placed on ground in marsh, meadow or prairie, in high grass, rushes or at foot of bush. It is made of dry grasses, reinforced by small sticks, and is lined with a few feathers.

Eggs.—Usually from four to six in number, of a pale greenish or bluish white color usually unmarked, although some are blotched or spotted with pale buff or brownish.

Distribution.—The Marsh Hawk inhabits all of North America, breeding from the south Atlantic States as far north as Alaska and the Hudson Bay region. It winters from about 40 degrees north latitude as far south as Panama.

NOTE.—The description of the adult female given above is from a more than usual interesting specimen. It bears three labels, one of them being in the handwriting of John James Audubon, as follows: "Female, June 23/43 Fort Union." The second label, read "Coll. of G. N. Lawrence, *Circus hudsonicus*, ♀, b. 38"; on the reverse of this label in handwriting of Mr. Lawrence, is "Presented by V. G. Audubon from the collection of J. Audubon, ♀, Missouri." The third label is that of the American Museum of Natural History. Although this specimen was prepared over sixty years ago, it is in a fine state of preservation.

This Hawk is commonly known by three popular names, each of which relates to a special characteristic of the bird. Marsh Hawk, because it is found about marshes, meadows or prairies; Mouse Hawk, from its fondness for these small but destructive vermin, and Harrier, from its habit of continually hunting or ravaging the homes of small mammals. It is one of the most useful and valuable of all the Hawks, and the agriculturist should under no circumstances ever permit one to be killed on his premises. No person can fail to recognize the Marsh Hawk on sight, from its very peculiar slow wing-beats, its proximity to the ground either in marsh or

meadow; its long wings and tail, and especially the large white patch at the base of the tail above. There is certainly no excuse for killing the Marsh Hawk because of mistaken identity. All of the data regarding the food of this species of Hawk shows that it lives very largely upon a class of rodents, that do the farmers and fruit-growers of the country incalculable damage in destroying forage crops, and especially in eating the bark from young orchard trees and thus killing them. At a recent meeting of horticulturists in New Jersey, one of the members present stated that during the present winter, owing to the deep snows, mice and rabbits had damaged his orchards to the extent of \$2,000. In Kansas rodents are a scourge so great that

"Since January, 1902, the demand for poison has continued steady, and large quantities have been sold, especially for the destruction of prairie-dogs and pocket-gophers. Up to the present time there has been consumed about twelve hundred pounds of strychnine and over half a ton of potassium cyanide in manufacturing poison. From 600,000 to 700,000 acres of land, formerly infested with prairie dogs, have been entirely reclaimed, while a partial destruction of them has been accomplished over a much larger area. The destruction of pocket-gophers has been accomplished over many small and widely scattered areas, including some of the best alfalfa ranches in the state. This work, however, has thus far not extended over sufficiently large areas to be permanent; further and united efforts only will produce results which will prevent loss to alfalfa growers from the presence of this pest." (From Press Bulletin, No. 130, Kansas State Agl. College.)

Kansas, like many other states, gives no protection whatever to Hawks, although scientific research shows them to be immensely valuable aids in killing rodents. Poisons cost the farmer money, besides labor in distributing, and then do good only if the rodent eats the bait; on the other hand, the Marsh Hawk is always hungry, and during the long hours of daylight is incessantly coursing back and forth hunting for food. It works continuously without pay, and deserves legal protection as well as the care of every person who tills the soil. The contents of 124 stomachs examined by the Biological Survey, United States Department of Agriculture, shows that 5 per cent had been feeding on mice, 18 per cent on other small mammals, 3 per cent on reptiles, frogs and insects, and a low percentage on poultry and small birds. Dr. A. K. Fisher, who wrote the exhaustive and valuable report quoted from above, says:

"Although this Hawk occasionally carries off poultry and game-birds, its economic value as a destroyer of mammal pests is so great that its slight irregularities should be pardoned. Unfortunately, however, the farmer and sportsman shoot it down at sight, regardless or ignorant of the fact that it preserves an immense quantity of grain, thousands of fruit trees and innumerable nests of game-birds by destroying the vermin which eat the grain, girdle the trees, and devour the eggs and young of the birds. The Marsh Hawk is unquestionably one of the most beneficial as it is one of our most abundant Hawks, and its presence and increase should be encouraged in every way possible, not only by protecting it by law, but by disseminating a knowledge of the benefits it confers. It is probably the most active and determined foe of meadow-mice and ground-squirrels, destroying

greater numbers of these pests than any other species; and this fact alone should entitle it to protection, even if it destroyed no other injurious animals."

Only fourteen states protect the Marsh Hawk; thirty-five states and territories permit it to be killed at any time. In the British Provinces, Manitoba is the only one giving protection. The ignorance regarding hawks and the prejudice concerning them is forcibly illustrated by the action of Virginia, which in 1903 passed a law protecting all the beneficial Hawks and Owls, but without waiting to give the statute a fair test repealed the same in 1904. In Ohio the present legislature is considering a bill offering bounties on "Chicken Hawks." This, of course, means, should the bill become a law, that all Hawks will be killed for the bounty, and the farmers of the state will be taxed for funds with which to pay pot hunters and others for the heads of birds that are of great value to agriculture.

In 1885 Pennsylvania passed a bounty or scalp act which was shortly afterward repealed, as it was found to be most disastrous in its effect. Over \$60,000 was paid the first year for bounties. Among other reasons urged for a repeal of the law was the following: "Officers were imposed upon and bounties were illegally drawn." "It encouraged a certain class to follow hunting as a means of livelihood, to the exclusion of other labor." "It is burdensome and inimical to the best interests of the farming community, and a useless expenditure of county money."

Does not this show a lamentable degree of ignorance on the part of those who should be the most interested in the protection of Hawks? Every farmer in North America who reads this leaflet should at once commence a campaign of education among his fellow workers, and should make it a prominent plank in his political platform that all the beneficial Hawks should have legal protection. Farmers! Do not expect your neighbor to do his duty until you have done your own.

Study Points for Teachers and Students

Where is this Hawk found in summer? In winter? Where does 40 degrees north latitude cross the continent? What is the most striking difference in plumage of the adults? How does young differ? What is the most striking distinguishing mark to be seen when flying? What are popular names? Why given? Why is this Hawk so beneficial? Describe the small mammals it eats. What damage do they do? Which of them are found where you live? What other pests does this Hawk eat? Can you give any personal reasons why this Hawk should be protected?

For much valuable information regarding the Marsh Hawk, study the following: Bendire's 'Life Histories of North American Birds,' Fisher's 'Hawks and Owls of the United States,' also Fisher's 'Hawks and Owls from the Standpoint of the Farmer.' This latter is a pamphlet issued for free distribution by the United States Department of Agriculture.

Additional copies of this leaflet may be procured of William Dutcher, chairman, 525 Manhattan Ave., New York City.



1. BLUE-WINGED WARBLER, MALE.
2. BLUE-WINGED WARBLER, FEMALE.
3. LAWRENCE'S WARBLER, MALE.

4. BREWSTER'S WARBLER, MALE.
5. GOLDEN-WINGED WARBLER, MALE.
6. GOLDEN-WINGED WARBLER, FEMALE.

(ONE-HALF NATURAL SIZE.)

Bird = Lore

A BI-MONTHLY MAGAZINE
DEVOTED TO THE STUDY AND PROTECTION OF BIRDS
OFFICIAL ORGAN OF THE AUDUBON SOCIETIES

Vol. VI

MAY — JUNE, 1904

No. 3

A Tame Ruffed Grouse*

By CARLTON D. HOWE

With photographs from nature

WHILE at my home in Newfane, Vermont, last summer, reports came to me that a farmer in the neighborhood had upon his farm a Ruffed Grouse that was comparatively tame. Of course, being interested in this report, I interviewed Mr. Rand, the farmer, and received from him the following facts: In August, 1902, while picking blackberries, he discovered a flock of seven young Grouse about half grown. They remained near by, within twenty or thirty feet, for an hour or so, showing little evidence of fear. The parent bird was not seen.

About the first of the next October, while Mr. Rand was picking apples, he was surprised to see a Ruffed Grouse walk out of the bushes and come up under the tree where he was at work. The bird did not appear afraid, but much interested in what the farmer was doing, walking around him and observing him from all sides, finally hopping on the wall, as if to superintend the apple-gathering. The bird stayed with the farmer at least two hours, and when he went away he left it under the tree.

In the following spring, while working in the field, Mr. Rand noticed Grouse following his farm-wagon. The bird was undoubtedly his old friend, seeking to renew the acquaintance of the preceding fall. The Grouse followed the wagon, perhaps fifty rods, until she came in sight of the farm buildings, where she stopped and waited for the wagon to come back again, and then accompanied the team down to the field. The Grouse repeated this performance for several weeks. In fact, almost every time the farm-wagon made its appearance in the field, the bird was on hand to escort the team back and forth.

As the Grouse continued to grow less shy, Mr. Rand conceived the idea of making her tamer by offering her food and talking to her. The bird very seldom ate any of the different kinds of food which he offered her.

* Read before the third annual meeting of the Vermont Bird Club, January 22, 1904.

Only once did she deign to take a few kernels of corn into her mouth. By much coaxing, he finally succeeded in touching the bird. After that the Grouse showed very little fear. When Mr. Rand called "Chickee," "Chickee," the bird would come out of the woods and sit upon his knee. From his knee she would fly to his shoulder, and then to the ground.



A RUFFED GROUSE AND HER PROTECTOR

The bird would repeat this performance a half dozen times, clucking contentedly the while.

One day Mr. Rand brought the Grouse to my home, a distance of three miles, to have photographs taken of it. To make sure she would not get away, he attached a long cord to the bird's leg; which precaution, however, was not necessary, as the Grouse showed little fear among strangers. The accompanying picture shows the Grouse resting confidently in his hands. Our bird upon this day made many new acquaintances, for every one was interested and wished to experience the novelty of holding a live Ruffed Grouse, a bird so proverbially shy and wild, in his hand. At least thirty people handled the Grouse before the farmer returned the bird to her native home in the woods.

A week or so afterwards, my brother and I, accompanied by Mr. Rand, visited the haunts of the Grouse for the purpose of taking photographs of the bird in her native habitat. Mr. Rand said at this time that he had not seen the bird since he had taken her to the village; so

we were anxious to learn how such familiar treatment had affected her. Mr. Rand called "Chickee," "Chickee," but no answering "Quit," "Quit," came from the woods, as heretofore at his call. Then we made a systematic search of the woods, each one calling, "Chickee," "Chickee," but of no avail. We searched again and continued to search and call for over an hour but no Grouse made her appearance. Surely, the bird must have resented the familiar treatment in her journey to the village and have gone to join the

wild members of her species. Disappointed, we were about to give up the search, when suddenly the familiar "Quit" was heard. The bird was seen coming slowly toward us. We tried in vain to coax the Grouse into the open field, but she was more shy than usual and kept at a distance. Finally, after much coaxing, the bird came within a few feet of us, but she would not allow herself to be handled. Exposures were made, but they were unsuccessful on account of the extreme shyness of the bird and because of the underbrush. Once she came within ten feet of me, stood gazing intently at me a few moments and then walked slowly away. Surely the Grouse did resent being taken to town and a too close acquaintanceship with strangers. The bird has learned something from experience, and does not wish to be treated in that way a second time.

A number of weeks afterwards, my brother and Mr. Rand again visited the haunts of the Grouse, going through the same process as described above, calling "Chickee," "Cnickee," and searching the thicket. In about fifteen minutes they discovered that the Grouse was following them, her presence being detected by a responsive cluck from the bird and by the sound of her walking in the leaves. At first she was rather wary, not allowing them to get nearer than a rod. As they advanced the Grouse would retreat, and, upon their retreating, she would come up to the original point. Mr. Rand took a stick and rustled in the leaves. This attracted her curiosity and as he retreated she advanced. They got her within ten feet of the edge of the thicket, and several exposures were made of the bird at that place. It was very hard to get her out into the open. They stripped choke-cherries from the overhanging bushes and fed them to her. These she ate readily. Finally, after a half hour's coaxing, she came out into the open space, where my brother took several snap-shots of her; each one being nearer than the preceding, she all the time becoming more familiar in her attitude toward them. After my brother had exposed the last plate, the Grouse came up to the camera and pecked the tripod and camera case lying near. At this point a Hawk flew past overhead and the bird darted back into the thicket. After twenty minutes of coaxing they got her out again to the edge of the brush, but she would come no farther. Finally, Mr. Rand picked her up and brought her out. She resented being handled, but still did not run away when he put her on the ground. At this point a third man came on the scene, but the Grouse appeared to take no notice of him. Mr. Rand held out his hand and the bird backed slowly away, still facing him. She was backing up a steep incline and so could not move very fast. He thrust his hand under her feet and she stepped into it. Here was a Ruffed Grouse, said to be untamable, standing in a man's hand, and all of my brother's plates were exposed!

A week after this another visit was made to the Grouse. This time

the bird was found without much difficulty. She was shy at first, but after some coaxing she became on intimate terms with the men. The camera was focused on a stone in an opening, and Mr. Rand coaxed the bird upon it, when the bulb was pressed. The bird was much more tractable than on previous days, as she came close to the men. The Grouse kept close watch of the movements of Mr. Rand's hands, following them with her head. Thus he could get her into almost any position he wished. Exposures were made of front, side, and back views. Repeating the process described



A TAME RUFFED GROUSE

Note the open mouth and drooped wings; see text

above, Mr. Rand got her to stand on his hand again. In this position snapshots were taken of the bird. Although exposed $\frac{1}{50}$ of a second with the full stop, the movement of her wings in keeping her balance resulted in only a confused blur on the negative.

The pictures were taken on a hot day in August and the unusual exercise and excitement fatigued the Grouse. She lolled like a thirsty hen in the barnyard, and some of the photographs represent her in this condition.

This Grouse is a female, but she evidently did not rear a brood last spring, as Mr. Rand says he saw her oftenest during the breeding season and there were no evidences of the bird having a nest or young.

The woods which the Grouse frequents are composed of a marginal growth of willow, alder, ash and maple, not more than ten rods wide, along a small stream. On the other side is a cultivated field. Less than

one hundred rods away is an extensive forest where the bird could range for miles, yet she apparently chooses to limit her range to a few acres. A much-traveled highway passes within ten rods; indeed, the woods border the highway for some distance. The bird is frequently seen by travelers. In fact, on one occasion, she was picked up by two ladies passing in a carriage and was taken to a neighboring farmhouse. This confidence in human beings may some day lead to her death. To guard against this, however, Mr. Rand has conspicuously posted her haunts, and his wishes were respected by the sportsmen, for she lived through the open hunting season, being last seen on December 10.

Now, the question naturally arises, why is this bird so tame? She appears to be a normal, well-developed bird, bright and active in every way. Aside from her tameness, there is nothing in her appearance or actions that differs, so far as we could observe, from other individuals of her species. Why, then, did this particular Grouse forsake her fellows and the hereditary tendencies of countless generations of wild birds, to place herself on such intimate terms with man?



RUFFED GROUSE POSES



A GULL ISLAND

The Herring Gull on Lake Superior

By BAYARD H. CHRISTY and NORMAN McCLINTOCK

With photographs from nature by the authors

THE Herring Gull is the common Gull of our northern coasts, lakes and rivers. South of Maine, northern New York and the Great Lake region, the Herring Gull is usually seen in winter only. Therefore it is characterized in some southern localities as Winter Gull, in contradistinction to the Summer or Laughing Gull.

A large colony of Herring Gulls now breeds undisturbed upon an inaccessible small group of about half a dozen granitic islands, extending east and west, and lying some two or three miles off the south shore of Lake Superior. The larger islands of the group rise two hundred to three hundred feet above the lake and are wooded. The smaller islands, which are the most easterly, are mere low crags that are broken and seamed. All the islands are heavily glaciated.

Upon July 22, 1903, we visited one of these smaller islands, which is about one hundred yards long, less than half as wide and scarcely twenty feet high. The vegetation is limited to lichens, grasses and small plants, which find but scant rooting in the crannies. Here the accompanying photographs were taken, excepting that of the flying Gulls, which was obtained on the St. Mary's river.

From a distance, the island was seen to be dotted white with several hundred of these beautiful Gulls, which rose as we approached and, screaming constantly, kept circling overhead, while we remained.

Upon our landing, a number of young Gulls, unable to fly, went scrambling and tumbling down the rocks, and swam several hundred yards out into the lake, to where a number of the old birds had settled down. Occasionally, one of the parent birds, whose young we disturbed, would swoop down close to our heads.

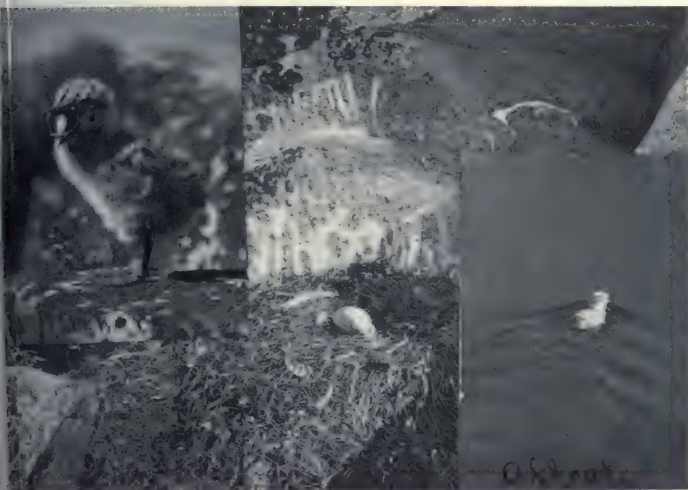
We found a dozen or twenty nests, which were placed wherever a broad level surface afforded a site upon the higher portions of the rocks.

These nests were composed of dried grass and pine needles and a few

old feathers. Each contained about a peck of material, formed into a low heap, with a shallow bowl-shaped bed in the top, six or eight inches across.

The nesting season was past, but we found some half dozen addled eggs. Judging from these, there were two types, which we would characterize as a gray-green and a gray-brown. They approximated in size and form an ordinary hen's egg.

As we climbed up the rocks; the young Gulls that did not swim away sought refuge by hiding; and so closely did they blend with the color and



HERRING GULL'S NEST AND TWO YOUNG GULLS

one of the rocks that they were scarcely discernable, even at a distance of but a few feet.

With heads down and bills invariably thrust into the farthest corners, they crouched in the crannies. The appearance of these little Gulls, thus huddled down, strongly suggested kittens.

They were covered with a soft, fur-like down, in color grayish white, distinctly mottled with black. The markings on the head are much more sharply defined than on the body. The eye is black and the expression alert. The feet, like a puppy's, are much too large for the body, and the whole effect is comical. We found these small Gulls usually in pairs, and deduced therefrom that each family kept to itself.

A curious instinct of self-defence—to disgust its enemies—was invari-

ably resorted to, by each young Gull that we picked up and set upon its feet. The bird first voided a large quantity of ill-smelling offal; then, after some gaping and wrenching of the neck, disgorged a cropful of half-digested fish, after which it would scramble away to find another hiding-place.

Amongst the old birds flying about, very few dark-colored young were seen.

The day of our visit was cloudless and still; the heat was intense; and this, with the stench of addled eggs, decaying fish and excrement dropped by the young and by the old birds circling overhead, together with the swarm of minute flies present everywhere, made the place as unpleasant as it was interesting.

As we passed other islands of the group, we saw a number of young Gulls swimming in the shelter of the rocks and attended by the parent birds. These were doubtless the more mature young, which had taken to the water upon our approach.



HERRING GULLS

A Blue Jay Household

By ISABELLA McC. LEMMON

DURING the spring of 1903, an unusually favorable opportunity was afforded me for observing the nesting of a pair of Blue Jays. The birds often come about our lawn at Englewood, N. J., especially during the leafless months, attracted from the near-by woods by the many evergreens, and it was not a great surprise when, early in April, a pair was seen near the house evidently nest-hunting. But, to my astonishment, the tree chosen was a spruce that stands so close to the house that some of its branches brush against the building.

On April 10, the foundation of the nest was discovered near the end of one of the lowest branches of this tree, within easy reach from the ground and about ten feet from a small porch. At this time it consisted of a handful of twigs and numberless pieces of string, but later softer materials were brought, and the lining was of fine rootlets.

Most of the work was done early in the morning, for after human life became fully awake the birds were too wary to visit their tree very freely; but some interesting incidents were observed from the house, and once or twice something very like reasoning was exhibited: on one occasion the bird alighted on a long, low branch of another spruce and walked out toward a piece of string which was caught among the end twigs. The branch sank lower and lower under the added weight until it rested on the ground; at this point the Jay seemed to think better work could be done from the more solid basis, and hopped off. Naturally the branch rose at once, leaving the bird to regard it with an expression of utter astonishment; then it flew up once more, again walked out to the end, and from *there* untangled the string.

The nest was a long time in building, and the first egg was laid on April 29, another appearing each day until May 3, making five in all, but sitting evidently began on May 2. By this time the bird had grown so much less timid that we could use the near-by steps with perfect freedom—once I walked under the tree, almost under the nest itself, without frightening her away.

On May 19, four of the young Jays were out, and the remaining egg hatched the next day. Of course they grew with great rapidity, and by the 27th their eyes were partly open; on June 2 I first saw them trimming their feathers, which by this time showed decided color,—grayish on the back of the head, blue and white on the wings, etc. On the evening of that date I also found that they were no longer brooded at night; they more than filled the nest now, and regarded passers-by with evident suspicion.

On June 3, I kept a record of the number of times food was brought

the young birds during the afternoon, and, wishing to see how it was carried, took up my position on the steps near the nest. In a short time one of the parents alighted in the tree, but discovered me in an instant and gave two low calls, the familiar '*tu-rée!*' of doubt and caution, and another of three notes with the accent on the first. At the sound the young birds at once set up their chatter, but the parent left the tree and not until the fourth attempt did she venture to feed them. But I had seen how the food was carried: in the mouth, apparently under the tongue, for the throat just below the bill bulged out almost like a pouch, though it did not seem to interfere with her voice. This was at 12.40 o'clock, and I then returned to the house to watch through the shutter of a convenient window. It was 1.45 when the chattering of the young announced the return of the old bird, and after she had disposed of her mouthful of food she crossed over to the branches near the steps and carefully assured herself that the intruder was no longer there. I use the feminine, believing that the female did the greater part, if not all of the feeding, for, though I never could detect any difference in the coloring of the two birds, one seemed less timid, and only once did I see the two approaching the nest together; if the male had been assisting he surely would have chanced there occasionally at about the same time as his mate.

During the rest of that afternoon the feeding times were as follows: 2.02, 2.30, 2.55, 3.25, 4, 4.12, 4.22 (I wondered if the nest of some unwilling Thrush or Robin had not furnished the last three mouthfuls), 5.10, 6, 7.20. Probably I missed one feeding between 6 and 7.20, having been away from the window at that time.

Three days later the young all left the nest, but remained in the neighborhood for several days, their voices becoming daily more like the parents', and on June 12 we saw them for the last time.



For Teachers and Students

The Migration of Warblers

FOURTH PAPER

Compiled by Professor W. W. Cook, Chiefly from Data
in the Biological Survey

With drawings by LOUIS AGASSIZ FUERTES and BRUCE HORSFALL

BLUE-WINGED WARBLER

The earliest arrivals of this species noted in the United States are at New Orleans, La., March 22, 1898, and on the Tortugas, Fla., March 23, 1890.

SPRING MIGRATION

PLACE	No. of years' record	Average date of spring arrival	Earliest date of spring arrival
<i>Atlantic Coast—</i>			
Shelby, Ala.			April 4, 1898
Washington, D. C.			April 26, 1891
New Providence, N. J.	7	May 7	May 3, 1891
Englewood, N. J.	8	May 4	May 2, 1902
Beaver, Pa.	3	May 3	May 2, 1891
Berwyn, Pa.	7	May 7	May 3, 1900
Southeastern New York	5	May 4	May 2, 1900
Portland, Conn.	13	May 12	May 2, 1902
Framingham, Mass.			May 13, 1896
<i>Mississippi Valley—</i>			
Eubank, Ky.	8	April 14	April 10, 1893
St. Louis, Mo.	7	April 22	April 17, 1883
Brookville, Ind.	6	April 26	April 17, 1896
Rockford, Ill.	5	May 6	May 2, 1890
Petersburg, Mich.			May 10, 1897
Grinnell, Ia.	4	May 4	April 28, 1888
Lanesboro, Minn.	6	May 14	May 7, 1895

FALL MIGRATION

The last one noted at Lanesboro, Minn., was on September 1, 1889, but the southern part of the breeding-ground is not deserted until early in October.

GOLDEN - WINGED WARBLER

SPRING MIGRATION

PLACE	No. of years' record	Average date of spring arrival	Earliest date of spring arrival
<i>Atlantic Coast—</i>			
Rising Fawn, Ga.			April 11, 1885
Asheville, N. C.			April 22, 1893
French Creek, W. Va.	4	May 2	April 30, 1893
Washington, D. C.	3	May 3	May 2, 1890
Beaver, Pa.	3	April 30	April 24, 1902
Waynesburg, Pa.	3	April 30	April 26, 1896
Portland, Conn.	18	May 12	May 3, 1896
West Roxbury, Mass.	5	May 9	May 4, 1891
Framingham, Mass.	10	May 10	May 8, 1895
<i>Mississippi Valley—</i>			
St. Louis, Mo.	6	May 1	April 26, 1888
Keokuk, Ia.	4	April 30	April 22, 1894
Waterloo, Ind.	6	April 30	April 27, 1896
Petersburg, Mich.	10	May 4	April 25, 1886
Livonia, Mich.	5	May 7	May 5, 1897
Southern Ontario	8	May 6	May 2, 1900
Lanesboro, Minn.			May 8, 1887
Elk River, Minn.			May 12, 1888

FALL MIGRATION

A fall migrant has been seen at New Orleans, La., as early as July 23, 1898, and one was taken on the northern coast of South America, September 6, showing that the Golden-winged Warbler is among the early migrants. The last ones seen were noted at Lanesboro, Minn., September 8, 1889; Livonia, Mich., September 21, 1891; Chicago, Ill., September 25, 1895; Englewood, N. J., September 2, 1886; French Creek, W. Va., September 15, 1892; Chester county, S. C., September 22, 1887, and New Orleans, La., September 21, 1897.



For Young Observers

Tree Swallows in a Bird-box

By RICHARD M. HUNT, Winchester, Mass.

Illustrated by the author

EARLY in the spring of 1902, before any migrants had ventured north, I placed a bird-box in a maple tree not far from my window, hoping to get a pair of Bluebirds to stay, a little later on. A pair of Bluebirds came, indeed, but they paid no attention to the snug home in the maple tree—until it was too late; for, about the first of May, a pair of Tree Swallows were seen circling about the box, and plainly announcing their intention to take possession, by giving continual utterance to their joyful, gurgling twitters. Just now, however, the Bluebirds began to dispute the Swallows' right to the box, to their sorrow, for the Swallows trounced them soundly.

Now the Swallows began to build, but soon began to encounter difficulties in the shape of English Sparrows. These little scoundrels would seize the opportunity, when the Swallows were away, to pull the carefully made nest from the box and scatter it in all directions. One day a Sparrow was caught in the act. He had just entered the Swallows' house, when he was seen by one of the real owners. The Swallow went inside also, and I could hear a loud squawking there. Finally the Swallow appeared, tail first, dragging the Sparrow by the nape of the neck. When outside, the Swallow shook that Sparrow as a dog shakes a rat, and dropped him at the foot of the tree! The defeated tramp limped away, and, I have good reason to believe, never troubled the Swallows again. In fact, the Swallows were never troubled seriously again by any bird. They were the true owners of their home, and deserved to be.

Now the Tree Swallows settled down seriously, raised their brood, and departed before July.

Early on the morning of March 27, 1903, I was returning from my usual before-breakfast bird-walk. As I approached my house, I thought I heard a familiar sound—a joyful, gurgling twitter. I glanced at the long-deserted bird-box, and there were apparently my Tree Swallows. They had safely sustained the long migration, and here they were, the undisputed masters of the box.

For about three weeks after their arrival they could be seen perching near the box, or flying about it, although, for some reason, they would never enter it.

On April 17, they were seen to enter their box several times, and also

to investigate two other boxes which I had placed near by. May 21, another pair of Swallows took one of the new boxes.

From April 17 to May 7, the Swallows were near their box all the time, but were never seen to enter.

On May 8, came the first signs of building. Straw and feathers were the chief materials used for building. To procure these materials the Swallows lit upon the ground, where they were exceedingly clumsy, resting upon their long wings.

On May 21, the Swallows had become more quiet, which led me to believe that eggs were in the nest. To verify my belief I tapped the tree, and out flew a Swallow. Now I knew that there were eggs.



TREE SWALLOWS AT HOME

Then, for several days, more than one of the Swallows was rarely seen. On June 3, however, the birds were flying merrily about, and I could hear the young squealing in the box. The old birds were now kept busy getting food for their hungry young.

On the morning of June 16, six young Swallows were seen in the doorway of the box, taking their first peep at the outside world. They now had to be fed much oftener. Here is a record of the number of times the young were fed, for about thirty minutes, which serves as a fair example of the number of times they were fed all day long: Fed once at 3.25, 3.37, 3.39 and 3.40; twice at 3.44 and once at 3.59. It then began to rain, and the Swallows went inside until it stopped, when they resumed as before. On this same day, a little later, two of the young fell out of the box, and I replaced them.

On June 17, I began to take some photographs of the box. While do-

ing this, I discovered one of the young perched upon a twig on the ground. I focused the camera upon him and snapped it. All the while, the two parents and two other pairs of Swallows, who came from I don't know where, were swooping just above the youngster's head. Finally, without any warning, the young one spread his wings and was instantly borne upward in a screaming, flapping mass of old birds, who prevented his falling. Over the pond they went, now back over the box again, and finally down the street; the youngster flew better as he flew farther, and before he was through he was able to flap along nearly as well as his father. Thus did the first of the Swallow brood learn to fly.

It rained all that night, and June 18 dawned cold and wet. As I looked out of the window I saw a soft gray thing under the box. Upon investigating I found it to be a young Swallow, cold and stiff. Poor little chap; he had fallen from his nest at dawn, and died of the damp and wet. I picked him up. He was a pretty little fellow,—soft gray, with a collar of the same, and a white throat and belly.

My photographs were not successful, but I kept taking new ones each day, a few of which were fairly good. As I had never tried bird-photography before, I made many sad mistakes.

My Swallows, however, were very tame and seemed to put the utmost confidence in me, even when I placed the camera on prolonged tripods, at a distance of four feet from the box. The birds would feed their young within a yard of my face without hesitating. Twice, when the Swallows were especially irritable or anxious concerning their young, they would swoop at my head so close that it made me duck. As they whizzed by me they would give an angry '*click*,' half vocal, and half made by snapping the bill.

The other notes of the Swallows are a rasping, harsh, alarm note, sounding like, '*skee-kee-kee-skee-kee-kee*,' etc.; the joyful twitter already mentioned, and a low, contented gurgle, always given when the bird is perching. Sometimes, as a parent bird swoops through the door of the house, it utters an indescribable note, sounding more like '*schleik*' than anything else.

The young would now sit in the doorway all day long, waiting to be fed. As one of the parents approached them, instantly the soft gray mass in the doorway would change into flaming orange as each wide mouth was opened. The parent bird would thrust a mass of flies down one of the eager throats, and then rise into the air again until another mouthful of flies was caught. It was comical to watch the contortions of the young one trying to swallow the huge mouthful, but he always did it, and opened up again as wide as any of his brothers.

On June 19, I noticed that the daring young one who had learned to fly a few days before was back in the box again.

For some days now my Swallows had been having visitors to their box. These Swallows would often come to the maple tree, perhaps to make a call. One especially I could always distinguish, for she was a dull brown color, and not at all green and shiny. She would come quite often, and, clinging onto the door of the box, would gaze curiously at the young ones, who evidently knew she was not their father or mother, for they never opened their mouths to her for food. Once a strange Swallow came and fed the young ones.

On June 20, all five of the young were still at the door of the box. This was the last day I saw my Swallows. The two old ones were perched upon the maple, with the morning sun shining upon their beautiful greenish blue backs and snowy white breasts. The next day I went away.

I returned on July 3 and the box was vacant.



SPOTTED SANDPIPER

Photographed from nature by R. H. Beebe, Arcade, N. Y.

Notes from Field and Study

A Morning's Bird-List

As is well known, the spring of 1900 was an extraordinary bird-season in southern New England and the Middle States. Many usually rare species among the northward migrants became decidedly common; while, in addition to this, there was a remarkable dallying of northern winter visitors far south of their normal limits. The result, particularly within the northern border of the Carolinian zone, was a most extraordinary conglomeration of birds, the like of which will probably not be seen again for many years.

Mr. Louis A. Fuertes and I had the good fortune to spend most of that spring together, in a particularly favorable locality, at Scarboro, on the east shore of the Hudson river, thirty miles above New York. This place, which is part of the ground made historic for ornithologists by the researches of Dr. Fisher, had the peculiar advantage of being within the overlap of the newly settled Carolinian and the loitering boreal birds, and at the same time full in the track of the great northward migration of Canadian species. A better position for studying the incongruities of the season could hardly have been chosen. In the rich, luxuriant spring of that warm, alluvial land, where already in mid-May the landscape wore the garb of summer, and the southern birds, such as Kentucky, Hooded, Blue-winged, Prairie and Worm-eating Warblers, Yellow-breasted Chats, Louisiana Water-Thrushes, Orchard Orioles, Acadian Flycatchers, etc., were settled on their breeding-grounds, it was indeed strange to hear the soft, chattering call and clear 'bleat' of White-winged Crossbills, which still climbed about our Norway spruces, in twos and threes. Two at least and I think three of these birds were still in the region when I left on May 29. Furthermore, they were to all intents and purposes *settled* in the Norway spruces

about my home, rarely straying from them, and had been in this chronic state for weeks, so that they doubtless lingered on well into June at least. There is no reason to believe, however, the birds were nesting. Red Crossbills and Siskins were also present throughout May, and Redpoll Linnets were seen on April 29.

Altogether we found over a hundred and forty species within two or three miles of our house, in the course of two months. Thirty-two of these were Warblers,—all the Warblers normally possible to the region, with the exception of the Orange-crowned, Connecticut, Cerulean, Brewster's and Kirtland's,—birds so unlikely to occur there at that season as to be hardly worth considering in this connection. Thirty of these Warblers were found on the small homestead described below.

The appended list of eighty species seen on a single forenoon gives an idea of the wonderful diversity and richness of the temporary avifauna. With very few exceptions, these birds were all found on a single hillside homestead of about six acres, containing grass-land, bushes and brambles, as well as many fruit and evergreen trees. Our only excursion beyond these limits was a walk across lots to the river, a distance of half a mile, and only two or three species (among them the Rough-winged Swallow) were added by this trip. Fuertes and I were almost constantly together, so that we had scarcely any advantages over a single observer. Considering the limitations of time and area, this list seems to be a very large one. Extending our field half a mile to the eastward would have added at least four species, among them the Kentucky and Worm-eating Warblers. Notice that the list consists almost wholly of the smaller passerine birds, and does not include even a single Hawk.

May 12, 1900. Bob-white, Mourning Dove, Yellow-billed Cuckoo, Black-billed Cuckoo, Downy Woodpecker, Flicker,

Nighthawk, Chimney Swift, Ruby-throated Hummingbird, Kingbird, Crested Flycatcher, Phoebe, Least Flycatcher, Blue Jay, American Crow, Fish Crow, Bobolink, Cowbird, Red-winged Blackbird, Meadowlark, Orchard Oriole, Baltimore Oriole, Purple Grackle, Purple Finch, American Crossbill, White-winged Crossbill, American Goldfinch, Pine Siskin, Vesper Sparrow, Yellow-winged Sparrow, Chipping Sparrow, Field Sparrow, Song Sparrow, Lincoln's Sparrow, Towhee, Rose-breasted Grosbeak, Indigo-bird, Scarlet Tanager, Cliff Swallow, Barn Swallow, Rough-winged Swallow, Cedar-bird, Red-eye Vireo, Warbling Vireo, Yellow-throated Vireo, White-eyed Vireo, Black and White Warbler, Blue-winged Warbler, Golden-winged Warbler, Nashville Warbler, Parula Warbler, Cape May Warbler, Yellow Warbler, Black-throated Blue Warbler, Yellow-rumped Warbler, Black and Yellow Warbler, Chestnut-sided Warbler, Bay-breasted Warbler, Blackburnian Warbler, Black-throated Green Warbler, Prairie Warbler, Ovenbird, Northern Water-Thrush, Louisiana Water-Thrush, Maryland Yellow-throat Warbler, Yellow-breasted Chat, Wilson's Warbler, Canadian Warbler, American Redstart, Catbird, Brown Thrasher, House Wren, White-breasted Nuthatch, Chickadee, Wood Thrush, Wilson's Thrush, Gray-cheeked Thrush, Olive-backed Thrush, American Robin, Bluebird.—GERALD H. THAYER, *Monadnock, N. H.*

Notes from in and near New York

HAIRY WOODPECKER. A male and a female spent this past winter in the Ramble, Central Park, and they or others have been seen in the north end woods. This is the first time in the four years I have been in New York that I have known this species to winter here.

PINE GROSBEEK. I was shown two, in gray plumage, in Central Park, November 12, 1903, and had excellent views before they flew. About three minutes later I found three (different?) individuals in the same place, also gray. At Nordhoff, Ber-

gen County, N. J., on January 9, I saw three Grosbeaks, two of them splendid adult males.

PINE SISKIN. October 11, 1903, I saw one Siskin feeding with several other species of its family, in Central Park, on the wall of the smaller reservoir.

FIELD SPARROW. In Bronx Park, at Pelham avenue, where it crosses the Bronx river, I saw one individual on January 17, feeding with Tree and Song Sparrows.

HOODED WARBLER. November 8, 1903, six weeks later than the date for departure given in Mr. Chapman's 'Handbook,' I saw an adult male at Grantwood, Bergen county, N. J.

WILSON'S WARBLER. I saw one in Central Park, on October 31, 1903. My dates for this and the next species were each a month later than those given in the 'Handbook.'

LONG-BILLED MARSH WREN. I saw one of these Wrens at Moresmere, Bergen county, N. J., on November 8, 1903, and another on the 21st.—CHARLES H. ROGERS, *New York City.*

Pine Grosbeaks in New Jersey

Pine Grosbeaks were first seen here on Christmas Day, their first appearance since February, 1897; I next saw them the first Sunday of the new year, and since then have seen literally hundreds of them. It has been no unusual thing to see as many as four or five flocks of from six to twenty individuals in the course of an afternoon's walk. They have been seen in every part of town, and many people have been sure that a large flock of Robins was wintering in their cedars. Since the middle of February I have not seen so many, generally a single one, or sometimes two. The proportion of red to gray ones has been one to five or six.

For several weeks after their arrival their food seemed to consist of the fruit of the mountain ash and honeysuckle berries, and while the berries lasted they were daily visitors to porches where honeysuckles are found. Lately they have been feeding on tree-buds, especially those of the English

maple and the larch; of the latter they ate not only the buds, but even the bark of the smaller, more tender branches.

I saw an occasional one as late as March 21, and hope that observers have made careful notes of their latest appearance.

During this exceptionally severe winter, I have seen, in addition to the very common winter birds, Tufted Titmice, Kingfishers, Bluebirds and Winter Wrens. Brown Creepers have been unusually abundant, as were Red-breasted Nuthatches during late fall and early winter. Redpolls and Snowflakes have been reported, but I have not been so fortunate as to see them. On the other hand, some of our regular winter birds, Song Sparrows, Golden-crowned Kinglets and Flickers, seemed entirely to disappear for a time.—R. C. CASKEY, *Morristown, N. J.*

Purple Martins in Illinois

In the fall number of BIRD-LORE I saw an account of great destruction to Purple Martins last summer, all through the East, and one especially in which all the young of a large colony were destroyed by rains.

It may be interesting to your readers to know that I observed fourteen pairs which, as far as I knew, raised all their young successfully this summer (1903). When they gathered for migration the sky about the Martin house was dark with birds.—ABBIE VREDENBURGH, *Curran, Ill.*

Cowbird and White-eyed Vireo

Having heard some conjectures and inquiries of the treatment of the young in nests when shared by the young Cowbirds, the following observations may prove of interest. A pair of White-eyed Vireos had a nest in an apple tree in my orchard, about eight feet from the ground. I found that it contained a young Cowbird and one young Vireo. The Cowbird, of course, was much the larger. When the Cowbird was half-grown it left the nest by being disturbed. For the first three days after the Cowbird left the nest, the old birds fed both the Cowbird and Vireo in the nest; but on the fourth the

little Vireo died, apparently from neglect. By this time the Cowbird was able to fly and meet the foster-parents, which it did so persistently before they could get near the nest, that it seemed to take all the food the old birds could procure, and they apparently could not satisfy the Cowbird and nestling too. The Cowbird was by this time bigger than its foster-parents.—HENRY HALES, *Ridgewood, N. J.*

Bird Protection in Great Britain

The British Admiralty have lately taken a step in regard to bird protection which we might well emulate in this country. It is reported in English 'Country Life' as follows:

"Amongst the things that we pretend to do, and leave most carefully undone, must be numbered the protection of wild birds. There are Acts enough in the Statute Book, it is true, and they can be produced at any time for purposes of annoyance, but they are entirely ineffective as a means for the preservation of our wild birds, and especially of sea-birds. It is a notorious fact that any one who wishes it, and is willing to pay the price, may have Gulls' eggs for his breakfast during the whole of the breeding season, or, if he be on collecting bent, he may, for a price varying with the rarity of the bird, obtain clutches of all our disappearing species. Under these circumstances, it is a matter for congratulation that the Admiralty has sanctioned the coöperation of the coastguard in carrying out the provisions of the Wild Birds' Protection Act. There are 677 coastguard stations on the coast, and the mere knowledge that each coastguardsman has power to interfere with the destruction of wild birds or their nests, ought to act as a check upon the depredations that are constantly taking place."

'By the Wayside'

With the May issue of this progressive little magazine, Miss Ruth Marshall, of the Ryan High School, Appleton, Wis., assumes the editorship. An especial effort will be made to increase the magazine's value to nature-study teachers.

Book News and Reviews

A GUIDE TO THE BIRDS OF NEW ENGLAND AND EASTERN NEW YORK, containing a key for each season and short descriptions of over two hundred and fifty species, with particular reference to their appearance in the field. By RALPH HOFFMANN, member of the American Ornithologists' Union. With four full-page plates by LOUIS AGASSIZ FUERTES, and nearly one hundred cuts in the text. Boston and New York: Houghton, Mifflin & Co. The Riverside Press, Cambridge. 1904. 12mo. xiii + 357 pages.

So many books designed to aid beginners in identifying the birds of the northeastern United States have appeared in the last fifteen years that, before opening this new 'Guide,' one might well be pardoned for believing it superfluous. A glance through its pages, however, will be enough to convince one that this is not the case.

This work treats of practically all the species of New England birds exclusive of accidental visitants and very rare, irregular stragglers. Short introductory chapters are given on 'Birds and their Seasons,' 'Migration,' 'Distribution' (accompanied by a map of the region covered, showing the life zones), 'Hints for Field Work' and 'How to Use the Keys.' In the latter the number of possibilities is narrowed by giving separate keys for winter, summer and autumn, and one for each of the spring months.

In the body of the book we find family headings, under which are summarized the distribution and abundance of the species and the prominent family characteristics. The order now usually followed is reversed, this book beginning with the Thrushes and ending with the Grebes.

An average of about a page is devoted to each species. Following the description of the bird's plumage, the nest and eggs are briefly described. The first large type paragraph gives the status of the species in the region covered,—its abundance, distribution, time of occurrence and haunts. The notes, habits and appearance of the bird in the field are then described, with the one object of identification in view. Mention is

made of all species which might be mistaken by the beginner for the one under consideration, and the differences between them are fully discussed. This is the part of the work which will be of greatest assistance to the student. Frequent cross-references facilitate efforts at identification.

The book is illustrated by four full-page plates by Fuertes and numerous cuts in the text, most of them showing the head or head and forepart of body. An appendix gives 'Lists of birds breeding in the three life zones of New England and eastern New York,' and a list of books of reference.

It is our opinion that for beginners in the restricted region covered by this book it will prove to be the most helpful of any manual yet published for the identification of birds in the field.—W. DE W. M.

BABY PATHFINDER TO THE BIRDS: A Pocket Guide to One Hundred and Ten Land Birds of New England, with Blank Pages for Notes. By HARRIET E. RICHARDS and EMMA G. CUMMINGS, members of American Ornithologists' Union. Illustrated. W. A. Butterfield, Publisher, 59 Bromfield St., Boston, Mass. 1904. 125 leaves. $2\frac{1}{4} \times 4\frac{1}{8}$ inches.

The object and scope of this tiny booklet are described in the following extract from the preface: "This little guide has been prepared primarily for New England, but should be of service in New York, New Jersey and Pennsylvania. Birds of prey, game- and water-birds are not included. The descriptions are based on the general appearance of adult birds as seen in the field. The small size and blank pages for notes commend the book for use out-of-doors, to be supplemented at home with reference to more elaborate works."

One hundred and ten of the commoner New England land-birds, from the Cuckoos to the Thrushes, are described. Each species occupies a page, the reverse side of the leaf being left blank for field notes. The larger families are preceded by a few remarks on the family characteristics.

Description of plumage is followed by

brief notes on haunts, habits, food, abundance and time of arrival. The last two have reference to the species in Massachusetts. Notes, nest and breeding range in New England are treated in a few words under separate headings. About one-fourth of the species are represented by small outline illustrations.—W. DeW. M.

The Ornithological Magazines

THE AUK.—A timely criticism of 'nature-books' attracts our attention in the April 'Auk.' W. M. Wheeler, writing on 'The Obligations of the Student of Animal Behavior,' says, that "all we can really perceive of animal behavior is certain movements of the creatures in time and space. As soon as we attempt to assign causes to these movements we at once pass into the province of pure inference." Here is food for reflection which may not be altogether palatable for some who have wielded the pen of late years in combining science and fiction. H. Oldys, writing on 'The Rhythmic Song of the Wood Pewee,' considers it as taking "higher technical rank than any other known example of bird music." His reduction of it to musical notation is, however, like all attempts of this kind, eminently unsatisfactory for any one who has ever heard the bird.

A. C. Bent continues his article on the 'Nesting Habits of the Herodiones in Florida,' showing admirable photographs that evidently represent much expenditure of energy in the taking. On the whole, the Herons protected from the plume-hunters would not seem to be in immediate danger of extermination. Not so, the Masked Bob-white of Arizona, which, according to H. Brown, survives only in Mexico, although not persecuted for feathers. The title 'Curve-billed and Palmer's Thrashers,' by J. H. Clark, is misleading, for the paper deals only with the nests and eggs of these two birds. It is illustrated.

The perennial local list is much in evidence, one by R. E. Snodgrass, on birds of the state of Washington, one by G. Eifrig, on those of western Maryland, and one by G. F. Breninger, on those of San Clemente

Island, California. The status of the western form of Lincoln's Sparrow is discussed by J. Grinnell; there are valuable reviews—one on that classic of North American ornithology, Coues' 'Key to North American Birds'—and the general notes are numerous.—J. D., Jr.

THE CONDOR.—The opening article in the March-April number of 'The Condor' contains an interesting description of the habits of 'Two Oregon Warblers,' by W. L. Finley, and is illustrated by reproductions of five striking photographs by Bohleman, showing the Black-throated Gray Warbler and the Western Yellow Throat feeding their young. A brief account of the 'Nesting Habits of the Black-headed Grosbeak' is contributed by Anna Head, and a description of 'A Sandhill Crane's Nest' in Gunnison county, Colorado, by E. R. Warren.

Under the title 'Destruction of Birds by Wires,' Emerson describes the havoc wrought among the smaller shore birds by two telephone wires strung across the marsh near Haywards, Cal., at a height just sufficient to catch the flocks of Sandpipers and Phalaropes passing from the feeding-grounds in one pond to another. Forty dead birds were picked up in one day and thirty the next.

Notes on 49 species of 'Midwinter Birds at Palm Springs, California,' are given by Grinnell, who calls attention to this locality as probably one of the best in the state for observing the migration of land-birds. The status of 'The Elf Owl in California' is firmly established by Herbert Brown, who describes the finding of two nests with eggs at Duncan Flats, about 25 miles north of Yuma, in May, 1903. This interesting species, first described from a specimen collected at Fort Mohave, Ariz., in 1861, seems to be limited in its distribution in Arizona and California by the range of the giant cactus, which is found on the west side of the Colorado river at only a few points. The first part of a paper entitled 'Nevada Notes,' based on observations made along the Humboldt river in the summer of 1903, is contributed by W. C.

Hanna. In one of the brief notes 'From Field and Study,' Dille records two sets of eggs of the Flammulated Screech Owl and one of the Evening Grosbeak, found in Estes Park, Colo., in June, 1903, a description of which is promised for a future number.

The series of portraits of eastern ornithologists begun last year is continued in this number by a portrait and brief summary of the work of E. W. Nelson, 'our authority on Mexican birds.'—T. S. P.

BULLETIN OF THE MICHIGAN ORNITHOLOGICAL CLUB.—The March number comes to us much improved in typography, with a new cover and increased number of pages. It is almost entirely devoted to two articles on Kirtland's Warbler, which contain probably more information relative to this rare bird than all previous literature combined. Norman A. Wood writes on the 'Discovery of the Breeding Area of Kirtland's Warbler,' with a list of the specimens of this bird secured or observed in Michigan. Chas. C. Adams follows with an article on 'The Migration Route of Kirtland's Warbler,' which contains much of interest. A number of local field notes testify to the activity of the Club.—W. S.

JOURNAL OF THE MAINE ORNITHOLOGICAL SOCIETY.—The April number contains a long article on 'Man's Relation to the Lower Animals' by Prof. J. Y. Stanton. 'Contributions to the Life History of the Yellow Palm Warbler,' by O. W. Knight, is the first of a promised series of papers on the Warblers of Maine, to be prepared by various members of the Society. A. H. Norton continues his 'Notes on the Finches of Maine.' A. C. Dike treats of 'Attracting Birds in Winter,' and G. D. Libby writes on the 'Woodcock.' Numerous local notes make up an excellent number.—W. S.

WILSON BULLETIN.—No. 46 of the 'Wilson Bulletin,' which has appeared since our last review, contains the following articles and short notes: 'The Cerulean Warbler,' Lynds Jones; 'Partial List of Summer Birds

of Holderness, N. H.,' A. C. Comey; 'The Larks of Germany,' W. F. Henninger; 'The Marsh Wren's Midnight Song,' C. J. Hunt; 'A Double Nest of Red-eyed Vireo,' Lynds Jones; 'The Clock Factory,' Ester Craigmile; 'The New Year Bird Census'; 'A Disastrous Trip,' W. F. Henninger; 'An Improvident King Bird,' Lynds Jones; 'The May Horizon'; 'A Door-yard List of Birds,' R. Le Baird. Prof. Lynds Jones points out that the Cerulean Warbler, instead of being a rare breeder, is, on the contrary, not uncommon in almost any part of Ohio where conditions are at all favorable. Mr. Comey in his list of the birds of Holderness includes 91 species, 87 of which are summer residents. The 65 species recorded from the same locality by Mr. Faxon ('Auk,' V) are indicated by a star. The illustration of the double Vireo's nest is interesting in showing the two structures equally complete, placed side by side on diverging twigs, and each containing eggs. The New Year Bird Census, which was carried on in about twenty localities, demonstrates how difficult it is to secure long lists of birds during wintery weather, since 28 species was the highest record made, and five observers only saw upwards of 20 species.—A. K. F.

THE EMU.—The April number of 'The Emu' completes the third volume of this valuable quarterly. The frontispiece depicts in colors two hitherto unfigured species of Honey-eaters. Among other interesting articles is one by Alex. Wm. Milligan, describing a trip to the Wongan Hills, western Australia, illustrated by several half-tones, one of which shows on old egg-mound of the Mallee-fowl.

In an article on 'Birds Occurring in the Region of the Northwest Cape,' by Thomas Carter, is an amusing account of a tame Straw-necked Ibis which became great friends with a young kangaroo dog, engaging with it in play, preening its fur and guarding it when asleep. We are glad to learn that the Lieutenant-Governor of New Guinea has issued an order prohibiting the destruction of Birds of Paradise, "in most portions of the possessions, so that they may not become extinct."—W. DeW. M.

Bird-Lore

A Bi-monthly Magazine

Devoted to the Study and Protection of Birds

OFFICIAL ORGAN OF THE AUDUBON SOCIETIES

Edited by FRANK M. CHAPMAN

Published by THE MACMILLAN COMPANY

Vol. VI Published June 1, 1904 No. 3

SUBSCRIPTION RATES

Price in the United States, Canada and Mexico twenty cents a month, one dollar a year, postage paid.

COPYRIGHTED, 1904, BY FRANK M. CHAPMAN

Bird-Lore's Motto:

A Bird in the Bush is Worth Two in the Hand

A Letter From Florida

The editor has just completed a tour of observation through parts of Florida, in the results of which, so far as they affect the future of bird protection in the state, BIRD-LORE's readers may be interested.

The region passed through extends from Kissimmee to Lake Okeechobee and thence to the east coast at Sebastian. The Kissimmee river trip is made very comfortably by boat, two days being required to reach Bassinger from Kissimmee. The remainder of the trip was made by wagon, camps being made by the way.

After passing through the lakes and reaching the Kissimmee river, one voyages through a vast marsh. The river is narrow, barely wide enough in places for the passage of the quaint little steamer; birds are abundant, and there is doubtless no journey in Florida, if indeed there is in the United States, where the tourist can see so many kinds of birds to such advantage.

Seven days were passed encamped near the heavily forested north shore of Okeechobee, and three days were consumed in driving thence to the east coast. No opportunity was lost to acquire information concerning the plume-bearing Herons and Paroquets, which once thronged this region, and it is probable that a fairly correct idea of the status of these birds was obtained. The 'Plume bird,' or Snowy Heron, is practically extinct. Not one was observed or

reported. The White Egret exists in small numbers; not more than a dozen birds were seen and only a single rookery was heard of. This was said to have been formed in the upper St. John district, about sixteen miles west of Sebastian. News of its formation was accompanied by the statement that it had been "shot out." This, it may be added, in the writer's opinion, is the certain fate of every rookery of aigrette-bearing Herons, unless an armed warden be detailed to guard it day and night.

No law will ever prevent robbery, if the temptation to thief be sufficiently great; and with Herons' plumes worth twice their weight in gold, there are hundreds of exp Plumers waiting to loot any rookery which becomes large enough to make the returns worth the risk of prosecution.

Paroquets are apparently very rare, though it will probably be years before the species becomes extinct. Only twelve individuals were observed, and diligent inquiry showed that the species has greatly decreased in the past ten years,—though no cause for this diminution is evident.

Reaching Indian river at Sebastian, Pelican island was visited and found to have been wholly deserted by the birds, not a Pelican old or young being seen. Six hundred and fifty nests were found on two small neighboring islands. These were all occupied in January, when Warden Kroegel reports that a heavy norther raised the water and flooded all the ground nests, while many of the young birds which escaped drowning were starved, the parents being evidently unable to provide for them. The old birds are now scattered along the coast, and it is not probable that any further attempt will be made to nest this year.

Subsequently the site of a Wood Ibis rookery at the head of the Sebastian river was visited. Four years ago, the writer found it occupied by several hundred pairs of birds, and nesting with them were White Herons and Water Turkeys. Today the great cypresses do not support one occupied nest, and we now turn toward the Keys, in the hope of finding some isolated place where primæval conditions still exist.—*Miami, Florida, May 2, 1904.*

The Audubon Societies

*"You cannot with a scalpel find the poet's soul,
Nor yet the wild bird's song."*

Edited by MRS. MABEL OSGOOD WRIGHT and WILLIAM DUTCHER

Communications relating to the work of the Audubon and other Bird Protective Societies should be addressed to Mrs. Wright, at Fairfield, Conn. Reports, etc., designed for this department should be sent at least one month prior to the date of publication.

DIRECTORY OF STATE AUDUBON SOCIETIES

With names and addresses of their Secretaries

California.....	W. SCOTT WAY, Pasadena.
Colorado.....	MRS. MARTHA A. SHUTE, Denver.
Connecticut.....	MRS. WILLIAM BROWN GLOVER, Fairfield.
Delaware.....	MRS. WM. S. HILLES, Delamore Place, Wilmington.
District of Columbia.....	MRS. JOHN DEWHURST PATTEN, 2212 R street, Washington.
Florida.....	MRS. I. VANDERPOOL, Maitland.
Georgia.....	PROFESSOR H. N. STARNES, of Experiment.
Illinois.....	MISS MARY DRUMMOND, 208 West street, Wheaton.
Indiana.....	FLORENCE A. HOWE, Hillside Ave., Indianapolis.
Iowa.....	MRS. W. F. PARROTT, Waterloo.
Kentucky.....	MISS JULIET O. ALVES, Henderson.
Louisiana.....	MISS ANITA PRING, 1682 Peters ave., New Orleans.
Maine.....	MRS. C. B. TUTTLE, Fairfield.
Maryland.....	MISS ANNE WESTON WHITNEY, 715 St. Paul street, Baltimore.
Massachusetts.....	MISS JESSIE E. KIMBALL, care Boston Society of Natural History, Boston.
Michigan.....	JEFFERSON BUTLER, Suite 79, Home Bank Building, Detroit.
Minnesota.....	MISS JESSIE WHITMAN, 2356 Bayless ave., St. Paul.
Missouri.....	AUGUST REESE, 2516 North Fourteenth street, St. Louis.
Nebraska.....	MISS JOY HIGGINS, 544 South 30th street, Omaha.
New Hampshire.....	MRS. F. W. BATCHELDER, Manchester.
New Jersey.....	MISS JULIA SCRIBNER, 510 E. Front street, Plainfield, N. J.
New York.....	MISS EMMA H. LOCKWOOD, 243 West Seventy-fifth street, New York City.
North Carolina.....	T. GILBERT PEARSON, Greensboro.
North Dakota.....	MRS. C. M. COOLEY, Grand Forks.
Ohio.....	MRS. D. Z. MCCLELLAND, 820 West Ninth street, Cincinnati.
Oklahoma.....	MRS. ADELIA HOLCOMB, Enid.
Oregon.....	A. W. ANTHONY (Pres't), 900 Thurman street, Portland.
Pennsylvania.....	MRS. EDWARD ROBINS, 114 South Twenty-first street, Philadelphia.
Rhode Island.....	MRS. H. T. GRANT, 187 Bowen street, Providence.
South Carolina.....	MISS S. A. SMYTH, Legare street, Charleston.
Tennessee.....	MRS. C. C. CONNER, Ripley.
Texas.....	MISS HOPE TERHUNE, La. Porte.
Vermont.....	MRS. FLETCHER K. BARROWS, Brattleboro.
Virginia.....	MR. E. C. HOUGH, Falls Church.
Wisconsin.....	MRS. REUBEN G. THWAITES, 260 Langdon street, Madison.
Wyoming.....	MRS. CORDELIA CHIVINGTON, Cheyenne.

Upon the Necessity of Accuracy

Not content with a field of action so broad that it would seem sufficient for even the ambition of his Satanic majesty—the Father of Lies has, of late years been invading the realms of nature, and, clad in seductive and apparently harmless garb, offered, alack ! fatal temptation to walkers in the wood paths, who, either for love of mental adventure or pushed by the spirit of greed, have sometimes obliviously, but in many cases

deliberately, perverted truth and brought not only the contempt of the honest upon themselves, but, worse yet, have caused much ridicule to be cast upon the entire class of writers who are popularizing natural history and the life out-of-doors.

To do this today, when the stress of life makes the contemplation of the world of nature a necessary counterbalance, is not only foolish but a crime, indeed, because it destroys values and puts a false standard before the eyes of the very children that it

professes to teach. It is like teaching a child the outlines of the great events of history through sensational novels and then expecting him to be content with a subsequent course of dignified history. After the lurid envelopment of an overheated imagination, the truth, however wonderful in itself, must seem cold and bare indeed.

In all nature work, and especially in investigations relating to birds and their protection, should the greatest accuracy be maintained. Any sportsman will testify that to overshoot the mark is generally to scatter shot further afield than to undershoot; and thus sentimental exaggeration, toward which there is at present such a pitiful rush by many who, knowing better, persist in using its methods to win their willing and ignorant audience (and the ignorant are often in the majority), will ere long be a spent force.

To paraphrase a truism—The truth of nature thrown to earth by the lack of mental balance among a few authors will surely rise again, but we do not wish any of our zealous bird protectionists to be found among those victims meshed in war who cannot rise, even upon the wings of their own imagination, in the company of truth.

M. O. W.

National Committee Notes

BY THE CHAIRMAN

To emphasize the necessity of incorporation, which has been brought to the attention of the Audubon members in the last two issues of *BIRD-LORE*, it is only necessary to present the following letter:

AUDUBON SOCIETY OF AMERICA
New York, N. Y.

April 21, 1904

"Kindly send me your exact corporate name for the purposes of a bequest. I suppose you have some descriptive pamphlet which contains it, and I ask for as early an answer as possible."

This letter shows that the work of the Audubon Societies and the continual agitation of the subject of bird protection by letters, leaflets and newspaper articles is commencing to bear fruit; it is an important economic subject which must attract the

attention of philanthropic people who will finally endow the National Committee with a sufficiently large sum to guarantee the continuance of all branches of Audubon work.

A prominent attorney in New York City has volunteered his services and is now looking into the matter of incorporation; i. e., whether it will be better to incorporate in Washington or in New York City; the former being the national center, whereas the latter is the financial metropolis. It is probable that before the August issue of *BIRD-LORE* is published the Committee can announce that the physical act of incorporation has been completed, when it will be necessary to call the attention of citizens throughout the country to the fact that the National Committee of Audubon Societies has a legal status and can hold real estate or other property in the nature of a permanent endowment to carry on the work of bird protection in perpetuity.

This being the year when most biennial legislatures do not meet,—this branch of committee work has not been so arduous; although at times it has been of rather a strenuous nature, and the result in a number of states has been of a very decidedly retrograde character, showing how important it is that the work of bird protection shall be placed upon a permanent basis. If the education of the public is not persisted in, all of the results accomplished in the past few years can be wiped out in a shorter time than it took the milliners' agents to almost exterminate the Terns of the Atlantic coast,—and this every bird-lover knows was done in about two years.

In Massachusetts the legislature is struggling with a bill to protect the Hawks and Owls; whether the members can overcome the ingrained prejudices of generations regarding these two classes of birds is still uncertain.

In the adjoining state of Rhode Island the legislature has retreated so far into the dark ages that they have actually passed a law providing a bounty on Hawks, Owls and Crows, notwithstanding the united efforts of the sportsmen's clubs and the Audubon Society to prevent its passage.

The disastrous experience of Pennsylvania and some other states that adopted bounty laws did not serve as a warning to Rhode Island. Fortunately the taxpayers of a commonwealth always insist on the speedy repeal of bounty laws as soon as the excessive cost is realized.

How men who claim to be intelligent, or to represent the best interests of a community, can pass a law to pay a bounty for destroying beneficial birds is past understanding; it is parallel with a great deal of the legislation of the present day, which is often harmful, largely unnecessary and unwarranted, and, in many instances, unconstitutional.

In New York state a determined effort to repeal the law preventing spring shooting of water-fowl was finally defeated; this was only done, however, after the most active resistance on the part of the ornithologists and other scientific men of the state, and the sportsmen's associations; it was a small section, Long Island, against the balance of the state. That the result of this law will work for good there is absolutely no doubt, as the Long Island waters, which are one of the great resting-places of water-fowl during the northward migration, are now protected after the first of January.

From Maine it is reported to the Committee that the Eider Ducks are being shot by the fishermen, notwithstanding all the attempts that are made to protect the few remaining birds. There are probably not over 100 pairs of Eider Ducks that still breed in the state of Maine, and it seems as though all public spirit and pride were lost when men are selfish enough to wish to kill the very last pair of birds breeding in their state, instead of trying to foster and protect them, for the benefit and enjoyment of descendants. Such ideas may be too Utopian for the ordinary man or woman, but it is necessary for the Audubon Societies to spread them broadcast if birds are to be preserved for our children and grandchildren.

In New Jersey a second bill was introduced to permit the killing of Robins by fruit-growers; this bill was defeated by as large a vote as was the first bill.

For three years the Audubon Society and all the decent sentiment of the state of New Jersey endeavored to pass a law to prevent the shooting of Pigeons over traps; various influences, not decent but very potent, defeated the bill for two years; the third attempt was made this year, and the history of this legislation is so peculiar and so interesting that it is given in detail as a warning to legislators who do not respect public opinion and as an encouragement to Audubon workers.

After the bill was introduced it was sent to the Fish and Game Committee of the House, and, notwithstanding all the efforts to move it from that committee, it was held until a short time before the close of the session, when petitions began to flow into the legislature in such numbers, demanding that the bill be brought on the floor of the House, in order that it might be acted upon, that the committee dared not withstand public opinion, and the bill was passed by a very large majority. Unfortunately, only five days of the session remained when the bill was sent from the House to the Senate; it was there referred to the Committee on Miscellaneous Business, and the same tactics were employed to defeat the bill that had been employed in the House; it was not reported out of the committee and the legislature adjourned without the Senate having an opportunity of acting on this bill which had been passed almost unanimously in the House.

The feeling of indignation was so strong in the state, as voiced by the press, that Governor Murphy felt compelled to put the taxpayers of the state to the expense of a special and extra session of the legislature in order to consider what was known as the *Pigeon Bill*. Even at the special session of the legislature there was one legislator who had the effrontery to try and kill the bill; however, it was passed in a few moments, after having been three years before the legislature. This shows how the ordinary politician respects a thoroughly aroused public opinion. The work of the Audubon Societies is primarily to arouse such public opinion, both by education and organization, so there will always be a demand for

beneficial laws and their enforcement. This same legislative body at the request of a few selfishly interested sportsmen repealed the law of 1903, stopping the spring shooting of Shore Birds or Snipe. The bill was so ingeniously drawn that these birds may be shot whenever they can be found in the state, the close season being so arranged that it covers the period when the birds are not found in the state. Governor Murphy approved the bill, notwithstanding the fact that its retrograde and harmful character was pointed out to him by well-known ornithologists. His act was one more nail in the coffin of this class of birds, which are rapidly disappearing, owing to the wasteful and sinful practice of shooting them while on their migration to the breeding-grounds. Virginia also took a retrograde step by repealing the law of 1903, giving protection to the Hawks and Owls; these unfortunate but entirely beneficial birds were placed in the excepted class.

The legislature also added to the excepted birds Wilson's Snipe and the Knot, commonly known as the Robin-snipe. An attempt was made to exempt all of the Bay Birds or Snipe from protection, but a few of the legislators who have always shown a very decided and intelligent interest in the preservation of the birds of their commonwealth made so strenuous a fight that the law protecting Snipe in the spring of the year was not repealed except so far as it applied to Wilson's and the Robin-snipe.

The model law was introduced in the legislature of Iowa, but it was not adopted, although the secretary of the Schaller Society, Miss Hamand, spent three weeks at the Capitol at the request of the National Committee, endeavoring to have this bill and an anti-pigeon shooting bill passed. The committee to whom the model law bill was referred reported adversely upon it on the ground that the bill was too drastic. It is a singular commentary on the intelligence of a committee that it can report a bill as too drastic that is drawn solely in the interest of agriculture; a political bill might be considered too drastic, but a bill for the preservation of birds, which are the greatest check nature provides for keeping down the

myriads of insect pests that are always working against the interests of the farmer, cannot be made too strong; it is a case where men are called upon to act on a matter they know nothing of and are either too careless or indifferent, or give too little time intelligently to study the subject themselves, and who, for some reason, are unwilling to accept the statements made by scientists who are competent to give them expert advice.

Fortunately the anti-pigeon shooting bill was passed, so that Iowa now has stopped this barbarous sport, and has thus removed a stain from her good name.

In Ohio, the mass of citizens stood idly by and let a handful of the lowest class of sportsmen insist upon the passage of a bill removing protection from a bird as absolutely beneficial as the Dove. The legislator who introduced this bill came from Darke county. What a happy coincidence between the name of the county and this legislation: Darke, dark—either way you spell the word the significance is the same.

The introducer of the bill stated that he had no apology to offer, and that he could see no reason why the state of Ohio should fatten Doves that the people in the South might shoot them in the fall. This shows the importance of a uniform and strong sentiment throughout the whole country for the protection of non-game birds; it also illustrates very forcibly the influence that the action of the citizens of one state have over those of another state.

It is sincerely hoped that the better class of sportsmen in Ohio were not a party to this legislation and will not participate in the wasteful practice of killing as harmless, innocent and valuable a bird as the Dove.

Unfortunately ten days were added to the open season for shooting wild fowl in the spring; this is a backward step, much to be regretted, and not at all in line with the best sentiment of the present time. A bill permitting the trapping and caging of Cardinals was also introduced, but was fortunately defeated, although only by the narrow margin of two votes.

In Mississippi the model law was adopted, and that commonwealth now has the honor of having joined those states that are taking

an intelligent interest in the preservation of their birds; even the beneficial Hawks are protected, although the unfortunate Owls were not included in the list of protected birds.

The legislative fight is now on in the state of Louisiana, the session having commenced on the 1st of May, when bills for the protection of the game and none-game birds were introduced.

A great deal of splendid preparatory work has been done by the Louisiana Audubon Society which should, and it is hoped will, accomplish the passage of the bills; however, a most determined fight may be expected, as it is found that there is a class of sportsmen and bird epicures who are objecting to any law that will not permit them to kill "nice, fat Robins, Catbirds, Wood Thrushes and Red-eyed Vireos." These birds have so long been sold in the markets of New Orleans for the "pot" or "toasting fork" that it is hard for some people to relinquish this privilege; further, the cage-bird dealers, i. e., those who want to capture and ship out of the state, to foreign countries, Mockingbirds, Cardinals, Nonpareils and Indigo Buntings, will join forces and try to defeat bird legislation. However, the decent sentiment of the state is becoming aroused, as they see staring them in the face the fate of Texas with its boll-weevil scourge.

If Louisiana passes the model law this year every coastwise state of the United States will have adopted the law with the exception of South Carolina, Alabama and California; and it must be said to the credit of Alabama, what cannot be said for South Carolina and California, that no attempt has ever been made by the Committee to have the model law adopted.

Warden service has been arranged for the present year in all of the localities covered at the last breeding season, and in addition the Committee are protecting the breeding Water Birds in the lake region of Oregon, in coöperation with Mr. J. W. Baker, Game and Forestry Warden.

The Committee is pleased to report that the Navy Department has directed the Su-

perintendent of the Cable Company at Midway Island to prevent the destruction of the birds of that island.

It is pleasant to confirm the statement made in March BIRD-LORE, that an Audubon Society would be at work in California before the June issue was published. On March 25 the organization was accomplished at Pasadena; it is exceedingly active and will exert a great influence at the next session of the legislature. The plan proposed is to establish local or county societies throughout the state, each with its own officers, and also to organize a state federation which will become a part of the National Committee. The work of organizing additional societies is going on rapidly under the guidance of Mr. W. Scott Way, secretary, who is proving himself to be a first-class leader; he is being ably seconded by the trenchant pen of the friend of birds and forests, Mrs. McCrackin, of Wrights.

Educational work is progressing satisfactorily; the South Carolina Audubon Society is thoroughly awakened to the importance of educating the people of the state so that at the next session of the legislature a demand will be made for a satisfactory bird-law. In Michigan the Audubon Society is making great strides and will undoubtedly be able to have the model law adopted at the next session of the legislature.

The demands for the educational leaflets of the Committee are greater every day, especially from state and county superintendents, teachers and libraries. It is greatly to be regretted that the National Committee is not in a financial position to make a systematic and determined effort to place our educational leaflets in every public school in the country.

The demand for the Snowy Heron or aigrette leaflet still continues very large, and it was only a few days since that a request was received from the Royal Botanical Society of London for a complete set of the educational publications of the National Committee for display in the educational pavilion of the Grand Horticultural Exhibition to be held in June.—W. D.

NATIONAL COMMITTEE OF AUDUBON SOCIETIES

EDUCATIONAL LEAFLET NO. 9



THE RED-SHOULDERED HAWK

Order—*Raptores*

Suborder—*Falcones*

Family—*Falconidæ*

Genus—*Buteo*

Species—*Buteo lineatus*

The Red-Shouldered Hawk

BY WILLIAM DUTCHER

Chairman National Committee of Audubon Societies

DESCRIPTION

Adults.—Upper parts dark fuscous-brown, each feather edged with rusty, except on lower back, which is without edging; wing-coverts and upper tail-coverts barred and tipped with white; throat rusty white, streaked with blackish; rest of under parts bright rusty, varying greatly in shade, all feathers either spotted or barred with white, the bars being more pronounced on the belly; some specimens show considerable black on breast or belly, principally as shaft-lines; wing with the four outer primaries (wing quills) notched, that is, abruptly narrowed near end, all barred with black and white; shoulder of wing deep rich rusty or chestnut, this being a conspicuous distinguishing mark, giving one of the common names of the species, *Red-shouldered Hawk*; tail crossed by four or five white bars and with white tip; under side of tail feathers gray instead of black; feet yellow, claws black; bill black, bare skin at base of bill (cere) yellow.

Young.—Upper parts like adult, except being less rusty and not quite so dark; under parts whitish, tinged with buff, deeper on thighs, profusely marked with large dark brown spots on breast and belly; thighs plain or with very small spots; wing without white barring of adult; base of primaries pale cinnamon, whitish on inner side of feather; tail grayish brown, faintly barred, showing more or less rusty near base of feathers, with some broken white bars on under side of feathers.

Florida Red-shouldered Hawk (*Buteo lineatus alleni*). Adults of this form of the Red-shouldered Hawk are much smaller than those of the typical species, and can be distinguished by the grayish white head, which lacks rufous, the decidedly grayish upper parts and the paler buff and faintly barred under parts. The shoulders, however, are the characteristic rusty or chestnut, but not quite so marked as in *lineatus* proper. The young of this race cannot be distinguished except by smaller size and locality where found (see note on distribution).

Red-bellied Hawk (*Buteo lineatus elegans*). Adults: Lower parts much brighter and deeper reddish brown than in *B. lineatus*; upper parts brighter and clearer black and white, except on the head, which shows much more rusty. The characteristic red shoulder patch present.

Size.—The male Red-shouldered Hawk (*lineatus*) varies in length, 17.50 to 19.50 inches from tip of bill to end of tail; female is much larger, varying from 19 to 22 inches. The Florida Red-shouldered Hawk (*alleni*) is much smaller than true *lineatus*, while the Red-bellied Hawk (*elegans*) is almost as large as *lineatus*. Note that the female of all the Hawks and Owls, commonly known as Birds of Prey, are much larger than the males.

Nest.—The nest of *lineatus* is built of sticks and is lined with strips of bark of various kinds, sometimes evergreen twigs, dry grass, dead roots and feathers; it is placed at an average height of fifty feet from the ground, generally in a deciduous tree, although sometimes in a pine. *Alleni* usually nests in pines and sometimes in cypress trees, while *elegans* builds in cottonwoods, oaks, giant cactus, pines, etc., sometimes not more than ten feet from the ground.

Eggs of lineatus and elegans.—Two to six in number, the average set being white to pale yellow, more or less heavily smeared, blotched and spotted with different shades of brown, fawn color, vinaceous buff and pearl gray, and showing an almost endless variety of patterns.

Distribution.—*B. lineatus* inhabits all of eastern North America, north to Nova Scotia and southern Canada; west to Texas and the great plains; typical *alleni* is found only on the Florida peninsula; *elegans* is found on the Pacific coast from British Columbia south to Lower California; also from western Texas to the Pacific.

The generic name of this hawk, *Buteo*, a buzzard, is of very ancient origin, being mentioned in the writings of Pliny; its specific name is from *linea*, a line, referring to the streaking of the plumage. The western form *elegans*, meaning elegant, probably refers to the beauty and special brightness of its feathers, while the southern form is named in honor of Dr. J. A. Allen, the well-known ornithological student and writer. There are twelve species and subspecies of Buteos in North America, four of which belong to the Red-tailed Hawk group, and three to the Red-shouldered family. Without a single exception the Buteos are valuable aids to the agriculturist, as will be shown in detail later. As a class they are rather heavy, deliberate fliers, much given to soaring in circles at a great height. At other times they are prone to select some point of observation on a dead limb in the tree districts, or a knoll in the prairie regions, where they will remain in perfect repose for a long period, seemingly asleep; however, any attempt to approach them by an observer quickly shows that they are alert and watchful. Unfortunately, the harmless and beneficial Hawks of the Buteo tribe are the scapegoats of all that is bad in the Hawk family and are made to suffer for most of the sins that a

very small leaven of facts, magnified by the prejudice and ignorance of ages, has swollen to a very mountain of crime. Without reason they are called "Chicken-hawk" and "Hen-hawk," simply because a farmer from time to time may miss from his flock of barn-yard fowl a pullet or hen, or may find their scattered feathers where a tragedy has occurred. The farmer does not for a moment consider that this crime may have been committed by a fox, skunk, mink, weasel, cat or some other carnivorous animal, but at once attributes it to a Hawk, and immediately registers a vow to kill every Hawk that he sees without reflecting that by so doing he may be killing one of his best friends.

Farmers are not the only persons who have a prejudice against Hawks, for it is unfortunately too true that a large percentage of sportsmen attribute the rapidly diminishing numbers of game-birds to Hawks, and consequently never fail to kill one when an opportunity occurs. There is really very little doubt but that an increase in the number of Hawks of the Buteo class would result in an increase of game-birds, as the Hawks would reduce the number of small predaceous mammals that are so destructive to the young of game-birds.

It is certainly a very short-sighted policy on the part of any one to condemn Hawks on hearsay evidence; in human affairs no court will permit the admission of this kind of testimony, and why should it be considered when birds are on trial? The proper method to judge of the good or evil that Hawks do is to consider the results of a thorough and scientific investigation of the food of a large number of Hawks collected from widely separated sections of the country and at all seasons of the year. Under certain circumstances an individual Hawk may be guilty of doing harm owing to his particular surroundings, but that is no reason for condemning all Hawks, any more than it would be for charging with crime every citizen in a village because one misguided individual was caught robbing the bank.

The subject of the economic status of Hawks is one of great importance, and the agriculturist who is not willing to carefully examine all of the evidence presented certainly is not living up to the advanced ideas of the twentieth century, but is still groping in darkness. The wide-awake farmer investigates every problem that will enable him to increase his products a pound or a bushel. If it can be proved that Hawks destroy enormous quantities of insects and vermin that are known to be a serious menace to agriculture, should they not be protected as valuable auxiliaries to this industry, which is by far the most important and valuable of all that engage the attention of man. It is purposed to present to the farmers of the country as rapidly as possible a series of illustrated leaflets giving the true economic status of the Hawks of North America, and it is hoped that every person who reads the series will carefully weigh the evidence furnished, and if it is shown by unimpeachable scientific facts that the species treated of is of value, let the farmer not only protect the Hawk in question but insist that his neighbors shall do likewise.

The following evidence regarding Red-shouldered Hawks is taken from the report of the Ornithologist of the State Board of Agriculture of Pennsylvania, 1890:

"In my examinations of 57 of these hawks [red-shouldered] which have been captured in Pennsylvania, 43 had been eating field-mice, some few other small quadrupeds, grasshoppers and insects, mostly beetles; nine revealed frogs and insects; two, small birds, remains of small mammals and a few beetles; two, snakes and portions of frogs. The gizzard of one bird contained a few hairs of a field-mouse and some long black hair which appeared very much like that of a skunk. The bird on dissection gave a very decided odor of skunk. In two of these hawks, shot in Florida, I found in one, portions of a small catfish, and in the other, remains of a small mammal and some few coleopterous insects (beetles)."

In 1893 the United States Department of Agriculture presented the following results of stomach examinations:

The stomachs of 220 Red-shouldered Hawks were examined, of which only 3 contained poultry; this is only about $1\frac{1}{4}$ per cent of the total number examined, showing how very little harm this species of Hawk does to the farmers' chickens; 12

stomachs contained parts of small birds; 102 stomachs contained mice of different species; 40 others contained small mammals; reptiles were found in 20 stomachs, and batrachians in 39—i. e., frogs, etc.; 92 contained insects; 16, spiders; 7, crawfish; 1, earth-worms; 2, offal; 3, fish; while 14 were empty at the time of examination. This evidence, which is indisputable, shows not only the harmless character of these birds, but it also shows most emphatically that they are of the greatest benefit to agriculturists, as nearly 50 per cent of them had been eating mice, which are very destructive to the farmers' crops and trees.

In the same report the following statements are made, which are additional evidence emphasizing very forcibly the fact that the Red-shouldered Hawks deserve protection:

"A correspondent of the Department of Agriculture, resident in Owego, Tioga county, New York, states that a pair of Red-shouldered Hawks reared their young for two years in a small swampy piece of wood about 50 rods from a poultry farm containing 800 young chickens and 400 ducks, and the keeper stated that he had never seen a Hawk attempt to catch one."

These Hawks, as shown by the stomach examinations, feed on insects to a considerable degree, and the report further states:

"Among the insects which are destroyed in considerable numbers may be mentioned grasshoppers, crickets and various kinds of beetles and caterpillars. Even in December and early January, when apparently all insect life is in a dormant state, specimens of the Red-shouldered Hawk are found whose stomachs are filled with one or more species of these insects."

The writer of the Government report, Dr. Fisher, concludes by saying:

"To sum up, the food of this Hawk consists of at least 65 per cent of small rodents, which are very injurious to the farmer, and less than 2 per cent of poultry. It seems hardly necessary to more than mention this fact to an intelligent person to convince them of the folly and short-sightedness of destroying this valuable bird, and of the necessity of fostering and protecting it in the farm lands and orchards."

Dryden says, "The field-mouse builds her garner under ground," but the stores with which it is filled are stolen from the farmers' crops. Every farmer knows the enormous number of these small rodents that can be found in a corn field at the time of husking, and although each mouse destroys but a small amount of grain or other vegetable matter, yet the aggregate amount that is lost on every acre must amount to a great deal in the course of a year on a farm of one hundred acres. These small mammals are numerous in species and are very prolific, and if their numbers were not kept in check by the so-called Birds of Prey they would soon become a serious menace to agriculture. If the farmers of the country could have a Pied Piper of Hamelin to rid them of their rodent pests they might not need the aid of Hawks, but Browning's weird creation cannot be summoned in this matter-of-fact age. The Buteo family will serve the farmer as well today as the Pied Piper served the storied Brunswickers.

"And, whether they pipe us free from rats or from mice,

If we've promised them aught, let us keep our promise!"

The only promise that the farmer has to give the Hawks for the valuable service they give him is that they shall be protected at all times, and shall be permitted to build a home and occupy it in peace; surely this is a small recompense for such inestimable service.

Study Points for Teachers and Students

Trace distribution of each race on map. Which kind is found in your locality? Does it remain with you in winter? What is the distinctive plumage feature which suggests name? Describe as many as possible of the vermin destroyed by this Hawk. Describe the differences between carnivorous animals and rodents. How many species of each have you in your locality? Send to the Committee any personal reasons you may have for protecting this Hawk. Who was Pliny? Dryden? Browning? When did they live and write?

For valuable information regarding the Red-shouldered Hawks, consult the reference-books named in Leaflet No. 8, Marsh Hawk.

Additional copies of this leaflet may be procured of William Dutcher, chairman, 525 Manhattan avenue, New York City.



1. YELLOW-THROATED WARBLER, MALE.
2. YELLOW-THROATED WARBLER, FEMALE.
3. GRACE'S WARBLER, MALE.

4. GRACE'S WARBLER, FEMALE.
5. BLACK-THROATED GRAY WARBLER, MALE.
6. BLACK-THROATED GRAY WARBLER, FEMALE.

(ONE-HALF NATURAL SIZE.)

Bird = Lore

A BI-MONTHLY MAGAZINE
DEVOTED TO THE STUDY AND PROTECTION OF BIRDS

OFFICIAL ORGAN OF THE AUDUBON SOCIETIES

Vol. VI

JULY — AUGUST, 1904

No. 4

Red-eyed Vireos, Awake and Asleep

By FRANCIS H. HERRICK

With photographs from nature by the author

THOUGH commonly shy and retiring, wild birds are not always difficult to approach, and one is often reminded of their marked individuality by finding a pair which are comparatively tame. The female, to be sure, usually displays the greater confidence, at least within the magnetic influence of nest and young.

This was the case with the Red-eyed Vireos, whose nest was discovered by the sharp eyes of a child four years old, in a maple tree beside a house and close to a well-trodden path. The child had made no mistake, for there on the nest sat the mother-bird. When we saw her half rise to her feet every little while, and with head depressed examine something with eager attention, then we knew there were young birds, for it was the twenty-eighth of June. By the aid of a mirror we were soon watching three little Vireos, which had just emerged from their shells. The old bird would follow closely every movement of the pole, and flit off quietly only when the glass nearly touched her head.

For four days the mother brooded almost continuously. She would sit for ten or fifteen minutes, go off without a sound, and in a moment return warbling to the twig, bringing a gray caterpillar or a snow-white moth; then we noticed the cocoons and green larvæ of insects, spiders, and, later, small dragon-flies. As she hopped along the slender spray and stood erect over her nest, three delicate heads on skinny necks were quickly upraised, trembling like tuning forks, presenting as many yellow targets to the aim of the parent, who tucked deep into the throat of each the destined food. After examining and cleaning the nest, brooding was again resumed. Life seemed to move in an orderly routine like clockwork, varied, to be sure, by casual events, such as the approach of the male or a change in the weather. The eyes began to open on the fourth day, when the first faint cheeps of the young were audible at a distance of a few feet.

The male sang much, but seldom fed his young. Whenever he did descend with food he was inclined to linger at the nest, and block the path of his more active mate, who was eager to brood. With querulous notes the impatient female would then peck and pull at his neck-feathers, until he seemed to take the hint, and move away.

On the day following there was a steady downpour of rain until mid-afternoon, but, to our surprise, the brooding was frequently interrupted. Once we noticed that, as the male approached with an insect, the female



FEMALE RED-EYED VIREO INSERTING FOOD INTO THE THROAT OF
A YOUNG BIRD

began to twitter and shake her wings. Thus, division of labor sometimes reaches this stage; the little hen broods, while the cock purveys the food. At other times when the male announced his presence, the female would utter a rolling chirp, and with vibrating wings retire before her mate, who performed the routine duties of feeding, but seldom entered the nest. Again she would give chase with drooping and quivering wings, as if to take the insect from him, but in this she did not succeed. Such actions are commonly witnessed, during the period of sexual activity, in many birds, and their meaning is not far to seek. The noisy celebration of the Fourth

did not disturb the tranquillity of these little workers, who would not even wince when a cannon firecracker was exploded in the street below.

When the young Vireos were a week old I began to watch their nesting habits at night more closely, and found that, while the male apparently roosted near by, the female invariably slept on the nest. At from fifteen to twenty minutes after sundown she was regularly at her post, and even at



THE BIRD SHOWN IN PRECEDING PICTURE, ASLEEP ON HER NEST

Photographed after sundown with exposure of five minutes, July 5, 7.05-7.10 P.M. The head turned to the left side (and directed to the right of the picture), is buried up to the eyes in the feathers of the back

this hour usually fast asleep. So profound, indeed, were her slumbers, that I could often enclose her in my hand and stroke her feathers without awaking her. She slept with her head twisted back and buried deep in the feathers between the shoulders. An apparently headless trunk or a little ball of feathers was all that could be seen, and the only motion discernible came from the regular pulsations of breathing.

In this manner the mother apparently passed the night, unless disturbed. When aroused by a ruder movement of the hand, she would peck feebly at a raised finger, but if not further molested the eyes would gradually

close, and the heavy head turning slowly on its axis settle down on the soft cushion again. If actually driven off she would return in a second, and in another moment would be fast asleep.

On a quiet evening, just after sundown, the camera was mounted on a suitable platform, and two photographs were made of this sleeping bird without awaking her. In the first the plate was exposed for five and in the second for twenty minutes, both yielding good prints, allowing for the regular movements of respiration.

The sleeping habits of birds do not appear to have received much attention, and are often difficult to observe. That they vary not only in different species, but with the season and other conditions is obvious. When not breeding, many of the smaller perching birds seek the dense coverts or foliage, which afford protection from cold as well as from enemies. Grouse are sometimes found enclosed in light snow; Quail huddle in dense covies on the ground, where they pass the night; birds of prey, like Hawks and Eagles, sleep at odd intervals by day or night, with the head buried in the feathers of the back. The diurnal sleep of Owls and Goatsuckers is more readily observed. The male Robin has been known to pass the night at a long distance from its nest. In a community of the great Herring Gull, which knows no repose by day or night, the old birds take frequent naps at all hours, and either while on the perch or the nest. This Gull will occasionally doze with head drawn in and eyes closed, but usually conceals its head in its feathers like a Hawk or Vireo. But, if at the such times, the Gull is dull of sight, its hearing is keen, for at an alarm it will suddenly throw up its head and with outstretched neck scream loud enough to be heard for half a mile. Some of the Pheasants sleep with the head either drawn in on shortened neck, or turned back and concealed. So far as I have observed, the same bird always turns its head to the same side in sleep, and this seems to follow as a matter of course from the force of habit.

When we analyze the tameness of such a bird as the Vireo just described, we must recognize two elements which enter into the problem in varying degrees,—the sum of its daily experiences and the strength of its instincts,—both of which are subject to constant variation. In this instance the strength of the brooding and other parental instincts undoubtedly tended to allay the temporary sense of fear and to increase the apparent tameness observed. One cannot help feeling that such profound sleep could not conduce, in the long run, to great length of life in either parent or offspring.

This nest was not disturbed beyond removing some obstructing leaves, and was not watched beyond the tenth day, when the wing-quills were growing apace. We were glad to learn, however, that the brood was safely reared, and we hope it made a good passage southward in the fall.

The Nesting Habits of the White-tailed Ptarmigan in Colorado

By EVAN LEWIS

With photographs from nature by the author

PREVIOUS to starting out to hunt the nest of the Rocky Mountain or White-tailed Ptarmigan in 1890, I had never been in their summer haunts in the nesting season. Having been referred to a man in Denver who claimed to have hunted Ptarmigan at all seasons of the year, he told me there would be no difficulty in discovering their nests if in a region where they were found in any number. He said they always nest among the small willows that grow anywhere above timber-line.

As I had seen flocks of over five hundred Ptarmigan at one time on Mount Evans and around Chicago Lakes, that was the ground selected for hunting them. Instead of finding them in flocks, only single pairs were to be seen and in many cases one male or one female. When a male bird was flushed it usually rose with the scream or whistle peculiar to this species. The cry was usually taken up by another male within hearing and in a short time the birds were fighting and chasing each other till one was driven back to his own grounds. The females were seen only near nightfall, either feeding on insects that had fallen during the day on the large snowfields or on the young shoots of alpine clover. This feeding, if on clover, was kept up till it was too dark to follow the bird to its nest; if on insects, the bird usually made a number of quite prolonged flights which carried it safely beyond observation.

On June 18 a nest was found, the bird merely leaving the nest as the foot was about to fall on it, and in less than fifteen seconds was again covering her eggs. The nest was a mere hollow in the ground that looked like the work of the bird herself. A little dried grass and a few feathers were all that kept bird and eggs from resting on bare ground. Contrary to expectations, there was not a willow within one hundred feet. One or two gnarled piñon trees stood about fifty feet away. The nest was not round but elliptical in form, and the bird never went on the nest except the long way of the ellipse, sitting facing either the east or the west.

The search was then renewed and continued till July 7, but on entirely different ground, as the willows were avoided. The result was two old nests of the preceding year, with the egg-shells still in the nest. One of these was on a very small bunch of grass more than half way to the top of what is known as Mount Goliah, just east of Lower Chicago Lake, in a rather deep wash for that mountain; the grass spot was just out of the way of the water. In this case no willows were nearer than two thousand feet. The other old nest was on the same slope of the mountain, about half a mile farther north.



In 1892, learning that a photograph of this bird on its nest was in demand, I spent another month in the search. Only old nests were found. One of these was under some rocks but on the grass. It was in one of the places where the sun melted the snow off, while the rock kept it from falling there. The search was continued one month every year, but no nests containing eggs were found till 1901.

At that time I was carrying a small camera and taking photographs of all kinds of nests that came in my way while looking for Ptarmigan. I had



WHITE-TAILED PTARMIGAN ON NEST

started south from Echo Lake, through the timber, toward the top of the mountain. A Ruby-crowned Kinglet was seen carrying moss and its nest discovered and tree marked.

On reaching timber-line a Junco was seen building, and a search was made for a loose stone to mark the spot for a photograph when the set was complete. In the search I was just about to put my hand on a Ptarmigan when I saw what it was. I then made two exposures with the small camera and left the camera on top of a large rock to mark the spot, the nest being three steps and one foot due south from the mark. I went to the cabin at the lake and got the large camera and tripod. When I returned I took three rather shorter steps, as I supposed, and looked for the bird or its

nest. For ten minutes I looked over the ground foot by foot. I could not believe my own eyes that the bird was not there, yet I could not see her. At last I was about to return to the mark and step the ground over again, when a reflection from the bird's eye showed her to me just one foot from where I was standing.

The camera was set up and several exposures were made. One of the resulting photographs was reproduced as a frontispiece to BIRD-LORE. (Vol. III, December, 1901.) The eggs, six in number, were also photographed.

This nest, like the one found in 1890, was elliptical in shape, but the bird would go on her nest only from the east and always sat with her head to the west. The bird would return within a few feet of her nest and then dart suddenly at the head or the hand of one handling her eggs. There were no willows near the nest, and the eggs, six in number, were partly incubated when discovered June 21.

In 1902 I was in California during the nesting season of the Ptarmigan, but last year a nest was found on July 5 by Mrs. Douthwaite, of La Fayette, Colo., on James' Peak, near Loch Lomond, containing seven eggs. This bird was frightened from her nest by dogs and threw a number of her eggs out and down over the rocks, where they were broken and were found to be incubated almost to hatching.

This nest was also elliptical in shape and the bird always sat facing the east. A number of dead willow twigs and grass had evidently been carried together by the bird herself to make this nest. Unlike the other two I have seen with bird on nest, this bird was not so well concealed by her

surroundings and, as shown in the accompanying photographs, was plainly visible.



A PTÁRMIGAN CHICK

Altogether I have seen three nests containing bird and eggs and four complete sets of eggs, besides over twenty old nests containing only the last year's eggshells and a few feathers; and while I must confess but little knowledge of their nesting habits, this much I claim — that they never nest in the willows but in the open, depending on their

color for protection; that they remain sitting till nearly or actually touched by the human foot or hand; that they place their nest differently in different seasons owing to the amount of snow, and that different individuals vary in the season of nesting, as I have seen young birds full-grown and on

same day (August 5, 1900) I saw chicks half-grown and others apparently just hatched. The photograph of the chick was one of those seen that date. This chick was held on the hand till the camera was focused and exposure made. It went about three feet toward the old one and then stopped to feed before going farther. The old bird showed more fight after the young one had safely returned to her than while we were holding and photographing it. The conduct of both adult and young, unless alarmed, is about the same in the presence of men as that of ordinary domestic fowls. Their food in summer-time is insects and young grass or clover, in winter-time willow or birch buds. During the molt of August and September some birds are too weak to fly and can be caught, and they must often become the prey of foxes and coyotes at that season.



CHIMNEY SWIFT

Photographed from life, by R. H. Beebe, Arcade, N. Y., July, 1903

A Visit to the Lake Erie Terns

By GERTRUDE FAY HARVEY

With photographs from nature by ROBERT F. GRIGGS

HEN and Chickens, or, to speak more definitely, Old Hen, Big Chicken, Little Chicken and Chick, form an insignificant group of islands in western Lake Erie. They are quite devoid of attraction to all save the naturalist, a fact for which he is duly grateful.

Old Hen contains several acres of ground, is fairly well wooded, and has a boat-landing and a farm-house which is occupied during the summer season. The Chickens are barren gravel piles in the midst of the water, offering neither food nor shelter to any living thing. They are the home of the Terns, for whom a mere resting-place is sufficient, and who find on these stones the things most needed—seclusion and freedom from pursuit. These Terns, known as the Common or Wilson's Tern, or more picturesquely, Sea Swallow, are of the same species as those which frequent the Atlantic coast.

Terns, unlike Gulls, which are seldom seen except in open waters, haunt the shores and bays, and are familiar to all who visit the lake-cities and islands. They soar slowly over the water at the side of excursion boats, often with bills directed downward, watching for their prey. Suddenly one descends, thrusts its bill into the crest of the wave and rises in an easy gliding curve—unsuccessful. Judging from the number of attempts the birds make before capturing one fish, their way of life must be difficult indeed. They perch on the poles where fishermen spread their nets; they travel tirelessly back and forth and around, singly or in groups, one of the loveliest and most distinctive features of our lake scenery. The glistening pearly feathers and wide-extended wings, the red of bills and feet, the sharp contrast between the shining black of crown and neck and the shining white of throat and breast, attract the attention of the most careless observer. They live entirely on small fish, and are as harmless as Hummingbirds. Like Hummingbirds, too, they have been sacrificed chiefly to the plume-hunter's greed and women's thoughtlessness. The dainty birds are very effective as ornaments; and what do the women know, or the plume-hunters either, of the gentleness, beauty and charm of the wild, living Tern?

Birds like these, which find their food and make their homes away from the haunts of men, seem peculiarly at the mercy of an invader when tracked to their homes. Their eggs and young are on the open ground. The parent birds, panic-stricken by the strangeness of the attack, hover helplessly about, merely uttering their distressful cries. A single Catbird will make a brave fight for her young. Several together are afraid of nothing on earth. These thousands of Terns, with strong

wings and powerful beaks, are utterly helpless. The seclusion of their existence seems to have left them incapable of dealing with an outside element.

A year ago I visited the nests on Little Chicken Island. At that time we found a few young birds and a great number of eggs. Most of the young birds were not more than a few days old, and often a chick would be in the nest with unhatched eggs. This year our visit was made just three days later, but the nesting season was much farther advanced. On both occasions I was one of a party from the Ohio Lake Laboratory at Sandusky.

The little party who visited Hen and Chickens last July consisted of two women with opera-glasses and note-books, and three men with botanical cases and camera,—a very harmless, sunburned, unconventional company. We made our start from Put-in-Bay, one of the most picturesque islands of the lake, and famous as the scene of Perry's victory. Our launch was engaged the evening before, so that we were ready for an early start. At six o'clock we were on hand, eating a picnic breakfast on the boat landing. At seven our engineer appeared, and, an hour and a half later, we landed on "Old Hen," delighted to reach firm land after a ten-mile ride in the trough of the waves.

This island is at a considerable distance from any other of its size, and is in itself an interesting study. Tame pigs and chickens seemed at first the only inhabitants. Sheep, rabbits and a perfectly fearless fox-squirrel were next discovered. Ring-necked Pheasants, Marsh and Crow Black-birds, Kingbirds, Olive-sided Flycatchers and Pewees, Red-eyed Vireos, Song Sparrows, and Sandpipers seemed to constitute the whole bird stock of the place. The island is rocky, mostly covered with soil heavy enough to sustain large trees, but exposed about the shore, where wild flowers and mosses flourish in the clefts. Great masses of rock have broken away from the mainland and slipped down, leaving narrow fissures in which the water plays with a gurgling, slapping sound. In some places the industrious waves have brought quantities of pebbles and heaped them up between the masses of granite, forming a sort of beach. Sandpipers dodged in and out among the rocks as we followed them and then reappeared, walking on the pebbles at the water's edge.

A skiff was secured from the boat-house, and at ten the party set out for Little Chicken. From a distance we noticed several Terns flying over the island. As we approached, the birds rose from it in a cloud, scattered, returned, and hung over our heads, screaming and circling wildly about. We landed cautiously, fearful of stepping on the eggs or young birds which lay everywhere on the stones. The island is a mass of boulders, many of them hardly larger than a man's fist. Its whole surface, above the usual high-water line, is used for nesting. Where drifted sea-weed or chips are

available, the birds utilize them as a bed for the eggs, otherwise they lay them on the bare rock. The nests are often only a foot apart, the eggs inconspicuous, and it required the greatest care to avoid treading on them. The eggs were in sittings of two or three, rarely four, buff or ashy with spots of lilac and brown. At the time of our visit, July twenty-fifth, most of the eggs were hatched and we found great numbers of young birds, varying from newly hatched chicks to full-grown birds that ran quickly away and disappeared. The little birds either snuggled out of sight among the stones or ran to cover.

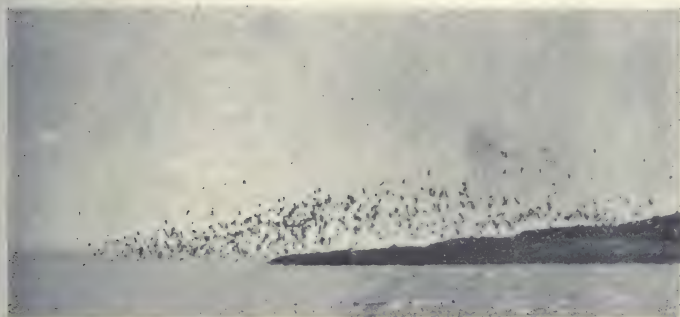
Many young birds lay dead on the stones among the nests, victims, perhaps, of family feuds or lost to their parents and dead of starvation. They could not have fallen from the nest, as land-birds do, nor could they have been trodden on by heavy-footed animals, the presence of which Mr. Chapman suggests may explain the great number of dead young among the Terns which he visited on Penikese Island.

One of the women, covered over with gray cambric, crouched down among the boulders; the other, similarly draped, hid among some scrubby willows which grew along one shore. The photographer retired to the far end of the island and the other men rowed away, promising to return for us in the afternoon.

Before long the birds began to return, first the young and then the adults, most of the latter with fishes in their bills, minnows about three inches long being the usual catch. It took a long time for them to settle, nor did they do so confidently during our whole stay of four hours. The island was soon covered with birds, but the flock above seemed as large and as noisy as ever. They would drop down, hover over their nests, perhaps touch the stones, and then rise again screaming and resume their whirling, distracted flight. Again and again this happened before the birds gained courage to alight. As the flock sank lower and more of the birds settled on the ground, I distinguished two calls,—one harsh, shrill, complaining, the other low, clucking. Many of the birds carrying fish uttered this call, and on alighting ran about as though looking for their hungry families. Within each of those hundreds of mother-birds, to the spectator as like each other as so many leaves or pebbles, raged the conflict between terror and mother-love. In many cases love triumphed and brought the trembling birds to the very feet of the invaders.

Near my station under the willows lay a large log, under which I knew that at least three little Terns were hiding. Presently one of the birds flew down, hovered for a moment with upward slanting wings and dangling legs, and then dropped to the ground. It carried a fish and advanced toward the log, calling softly. She was within about twelve feet, and I could clearly see the delicate tinting of her wings, and her full bright eyes. One of the little birds ran toward her with gaping bill. She turned and

walked away, and the disappointed youngster ran back under the log. Again she advanced and a second bird ran out, also to be refused. Then she arose and joined the noisy flock above. Presently she or another came back and repeated the performance. From the testimony of the other watchers, this scene was enacted again and again in different parts of the island. Did the mother change her mind at the last moment, and decide that it was unsafe to bring her little ones into the open and feed them in the time of disturbance, or did she find that they were not her own? In the latter case, the little ones, who plainly expected to be fed, are less discriminating than the parents, or perhaps they merely recognized the food. I did not see any birds actually fed, though a great many old Terns walking about with laden beaks were visible from my hiding place, and in many cases they seemed to dispose of their prey before taking flight.



THE TERNS LEAVING THE ISLAND

The photographer, however, was more fortunate. On his end of the island there was very little cover, and half a dozen chicks were caught in the open and remained in plain view. To these the old birds came with food, and after many false starts and many retreats, they succeeded in finding the right chicks, disposed of their burdens and flew away. This seems to indicate that the bird under my observation was unable to find her own young, as timidity would have had more effect in the open than in the more sheltered position. One case related by the photographer was very comical. A mother hunting for her little chick invariably went too close to a full-grown 'squab.' (When just hatched they resemble young chickens, but at this stage they are much like young pigeons.) This greedy fellow made a dive for the minnow and succeeded in catching hold of it. The old bird tried to rise and carry it out of reach, but the squab had firm hold and after much flapping and struggling she yielded and went away for

another. The poor birds seem to have as hard work satisfactorily disposing of their catch as they have making it in the first place.

The great number of the birds and their exact similarity and quick movements made individual observation difficult, unless the bird was very close at hand. Exceedingly graceful in the air, with an enormous spread of wing, on land the Tern is handsome but ungraceful, appearing much too heavy for his slight feet. At the moment of alighting he is beautiful; once on the ground, he moves with a weak, uneven gait. Hundreds of these jerking, waddling figures crossing and recrossing in the field of vision give little chance of studying any one bird.

The willows under which I was hiding grew at one side of the island on a shelving shore, along which some half-grown birds were wading. A Least Sandpiper, the only alien we saw in the colony of Terns, lingered in the shallows for a while. Farther out there was almost constantly a flock of Terns swimming about in the water. Most of them were young birds, distinguished from the adults by less brilliant coloring of bills and feet and by brownish tints in the pearl gray of the body. These birds would occasionally swim to shore and waddle up and down on the pebbles for a while and then go back to the water. The presence of this large flock of swimming birds explained the sudden disappearance of most of the full-grown young soon after our coming to the island. Incapable of sustained flight, if indeed they could fly at all, the birds ran to the water and escaped. Many of them returned and settled down after we had been hidden awhile. Evidently the birds are strong swimmers long before they can fly. Perhaps in the course of evolution the birds' ancestors were swimmers before they were flyers — and the life history of the individual follows the same order. These birds paddled about serenely, close together, like a flock of Ducks.

From the report of other observers who have made a longer visit to the Tern islands, the birds keep up their noise incessantly, even though there be no one in sight. So we had no hope that the whole flock would become quiet. By noon, however, the birds were fairly well settled, and at a little distance I could see crowds of adult birds walking about or crouching among their little ones. Now and then a flock would rise, adding their cries to the tumult overhead, and we knew that the photographer was moving his camera. His task was a difficult one. He had brought a long piece of tubing, thinking to hide at a distance and take pictures in peace, but the birds, which were somewhat afraid of him, were in deadly terror of the camera, and preferred the man to the machine. The young birds, protected by their coloring, at first remained motionless, seemingly unfrightened. On being touched or moved, however, so that they knew they were discovered, they scurried away, to hide under stones or driftwood, and nothing could induce them to come out and face the camera.

There are two methods of self-protection in universal use among animals

too young or too weak to fight; one is hiding, the other running away. Both of these schemes were practiced very skilfully by the little Terns. When we first landed we saw many of the half-grown birds making off, and in a few minutes the island seemed almost deserted. Many of the larger ones had taken to the water; but when we looked closely under stones and amongst the rubbish we found, to our surprise, that the place was still swarming with birds. Every plant had a chick at its root, and under logs and overhanging rocks there were sometimes a dozen. The hiding places of the chicks are generally close to the nests. These are often



NEST AND EGGS OF COMMON TERN

on windrows of driftwood or rubbish, with whose colors their brownish speckled down blends perfectly.

The older birds run away from the nests and hide among the stones, which match their developing feathers better than the debris. It may be observed here that while the newly hatched birds match the nests, and the half-grown ones the stones, as they grow older and gain power of flight, the protective coloring is lost entirely, and the adult is a creature of beautiful and striking contrasts. Of the 'squabs,' many play the trick of the Ostrich, sticking its head into sand. If they can find a cover for their heads, they are content to have the rest of the body in full view. The one photographed was so confident of his safety that it was only with much vigorous prodding that he could be dragged out. Many 'freeze in their tracks' without trying to conceal themselves at

all. One of these was killed by having the tripod leg set down upon it. Another was photographed as he rested between two rocks in the water. Every wave lifted him and tossed him against the stone; but he lay absolutely still, with his eye on the invader. Another crawled under a shelving rock, where every wave splashed over him. He looked like a hen caught in a thunder-shower, and must have been very uncomfortable; but he never budged. These birds were not quiet merely in the sense of being relaxed; they were holding still, with every muscle rigid. The photographer had an experience which illustrates this: One of the birds floating in front of the camera was carried by the water out of the field. The photographer took him by the beak and steered him back into position. He did this repeatedly, and said that the bird held its neck so stiff that it seemed like moving a wooden decoy. He even declared that he could have picked the creature up by the bill and held it out straight and stiff. As he did not try the latter experiment, it is possible that the bird would have remonstrated. The muscular effort involved must, of course, be very great; and one wonders how the birds can maintain it for such a length of time. When finally aroused, however, they are like the chicks,—very active. The one held in the hand to be photographed fought fiercely with his strong beak and flapped his long wings vigorously until he was released, when he flew away at a great rate.

The day was warm, the heat reflected from the rocks oppressive, the stinging flies troublesome—but we were all surprised and disappointed when the rising of all the birds from the island announced a fresh arrival, and the grating of a boat on the pebbles told us that our friends had come for us. We tried a few farewell shots at some protesting chicks, but succeeded in getting only blurs, indicating their hurried departure from the field of action. Then we climbed into the boat and pushed off. As we looked back from a distance, the whirling, shrieking cloud sank lower, and the Terns, fully reassured for the first time since our arrival in the morning, went back to their homes and their little ones.

We had chosen to watch a few birds closely rather than have a briefer view of a great number. During our stay the other members of the party had visited Big Chicken and Chick Island. Big Chicken has several good-sized trees and a fisherman's hut. On this island were reported Terns in greater numbers than on Little Chicken and very many Black Terns with the others. The Black Tern is a smaller and less timid bird. It nests in marshes, and its presence in flocks with the common Tern is hard to explain. It is usually seen about the shores and lowlands and is said to feed entirely on the insects which abound in such places. We had often noticed them flying with the Common Tern over the water, but were surprised to find them here in mid-lake in such numbers.

Chick Island, the explorers informed us, had no nests upon it, but was entirely occupied by Herring Gulls, which were perching on it as close as they could stand. One gentleman carried a great handful of Gulls' feathers which he had picked up on the rocks.

On our return journey the launch passed near the other island. From Big Chicken a flock of birds, like that from the island we had visited, rose and scattered, filling the air with their shrieks. The most amusing and novel spectacle was Chick Island, which was almost covered by Herring Gulls. We did not approach near enough to alarm them, but watched through our glasses the sedate and pompous birds, standing almost erect upon the rocks. The Gull is much heavier and less graceful than the Tern, and the contrast is even stronger between the birds resting than on the wing. They are also much larger and darker in color. There they stood, ranged in rows one behind the other, soberly clad in drab and brown, apparently assembled for educational or religious exercises. Possibly they use the islet as a roosting place at night and had come early to secure choice accommodations. Or perhaps they are not absolutely tireless on the wing and spend part of their time resting and digesting their food. I have often seen them in the evening flying over the lake when it was so dark that their forms were barely distinguishable from the water. It was about half-past four that afternoon when we passed the island. We watched the almost motionless birds till they were no longer visible against the gray background of the rocks, and we did not solve the riddle.



Copyright, by L. S. Horton

WOOD PEWEE ON NEST

Photographed from nature, by L. S. Horton, at Hyde Park, N. Y., July, 1903. The nest was in an apple tree, seven feet from the ground

For Teachers and Students

The Migration of Warblers

FIFTH PAPER

Compiled by Professor W. W. Cooke, Chiefly from Data
in the Biological Survey

With drawings by LOUIS AGASSIZ FUERTES and BRUCE HORSFALL

YELLOW-THROATED WARBLER

Wintering abundantly in southern Florida and sparingly north to South Carolina, but little can be said of the migration of the Yellow-throated Warbler in the Gulf States. The northward movement begins early in March and the average date of arrival for fifteen years at Raleigh, N. C., is March 26, earliest March 13, 1890; the average at Asheville, N. C., for four years is April 21, the earliest April 13, 1893.

The Yellow-throated Warbler is one of the very earliest fall migrants, beginning its southward movement before the middle of summer and reaching Cuba the latter part of July. The last noted at Washington, D. C. was September 4, 1890; at Raleigh, N. C., September 17, 1886, and many migrants continue to pass through Florida during the whole month of October.

SYCAMORE WARBLER

This Mississippi Valley form of the Yellow-throated Warbler arrives on the north coast of the Gulf of Mexico about March 10, and spends a month in moving slowly north to St. Louis, Mo. Central Indiana is reached about the middle of April, and the average date of arrival for ten years at Petersburg, Michigan, is April 21.

The southward migration begins so early that the Sycamore Warbler appears in Guatemala by the middle of August. The last do not leave Indiana and Missouri until October.

GRACE'S WARBLER

Grace's Warbler spends the winter in northern Mexico and breeds north to La Plata county, Colorado, but the only migration record I have is of its arrival April 27, 1902, in the Huachuca Mountains of Arizona.

BLACK-THROATED GRAY WARBLER

The species enters southern California the first week in April and reaches southern British Columbia the third week in the month. The

earliest dates in southern Arizona and southern New Mexico are included between April 6 and April 9, while the species appears in the northern portion of its range in Colorado early in May.

The last do not leave central California until the first week in October and do not desert the state until after the middle of the month.

Notes on the Nesting of the Lawrence's Warbler

By ISAAC BILDERSEE

ON May 15, 1903, Dr. Wm. Wiegmann observed a Lawrence's Warbler (*Helminthophila lawrencii*) in Bronx Park, New York City, but did not see the bird again that year. On May 18, 1904, he again observed an individual of this species in the same locality. It was carrying nesting material. On June 6, the bird was observed carrying green larvæ, presumably to its young. On June 8, Dr. Wiegmann and I observed the bird at various times during about five hours. Its song, which is described elsewhere in this article, was first heard by us on that day.

On June 10, I remained for about seven hours near the place where we had seen this rare Warbler, but I could not find our bird. I had seen a female Blue-winged Warbler fly into a certain thicket of catbrier and second-growth of dogwood several times during the day, and, in order to confirm suspicions that I had formed, I concealed myself among some near-by bushes and waited. At the end of half an hour I was rewarded by seeing the Blue-winged Warbler fly in with food, accompanied by the Lawrence's Warbler. The female immediately dropped to the ground, while the Lawrence's Warbler stayed in the vicinity (at times less than ten feet from me). After five minutes the Blue-winged Warbler flew away, the Lawrence's Warbler taking her place on the ground. The Lawrence's Warbler waited until the Blue-winged returned and then flew away with her. It was by this time too dark for further observations. On June 12, in company with Mr. Waldron Dewitt Miller, of the American Museum of Natural History, I paid another visit to the vicinity. In less than five minutes we found the nest, which contained six fledglings, evidently about a week old. The young could not, at that time, be distinguished from the fledglings of either the Golden-winged or Blue-winged Warblers. Mr. Miller and I observed the birds during the remainder of the morning. The parent birds paid frequent visits to the nest, averaging about five minutes between their trips. The female stayed on or near the nest for about eight minutes each time, the male, or Lawrence's Warbler staying only about three minutes.

On June 13, the young were perceptibly advanced. At this time the

remiges and greater coverts were fairly well developed. On June 14, I could see that traces of yellow were present on the breast. The middle of the belly and the jugulum were still bare. The wings showed well-defined white bars. On June 18, Dr. Wiegmann and I made a thorough search of the vicinity, but found no trace of the parent birds, the nest or the young. The day before this, Dr. Wiegmann had seen the nest in place, but empty, except for some undried excrement, and frequent visits to the vicinity have been of no avail.

The nest was placed on the ground (not in a depression). It was at the foot of a goldenrod (*Solidago*) beneath the tip of a spray of beech and in a tangle of catbrier and second-growth of dogwood. In the immediate vicinity were beech, red cedar, pin-oak and chestnut trees. The nest was covered with a few dried beech leaves that may have fallen from the tree above. It was a typical Blue-winged Warbler's nest and was arranged in concentric layers, the inner layer being composed of red cedar shreds, the outer layer consisting of dried black oak leaves.

Three different songs were noted, all, of course, being given by the male, as follows:

(a) *Shre''-e-e, zwe-e-e-e*, the first syllable like that of the song of the Golden-winged Warbler, the second like that of the song of the Blue-wing. This was the song most frequently heard.

(b) *Shree-e, shree, shree, shree*, the typical song of the Golden-winged Warbler.

(c) *Chip-a-chip-a-chip-a-shree*. The first phrase of this song is exactly like the song heard during the second song period of the Blue-winged Warbler, the second being a typical Golden-wing syllable.

Besides these three songs we heard a sharp call-note—*tzip*—and a thin scolding note when we came too near the nest.

I append a description of the Lawrence Warbler: Above bright olive-yellow, brighter on occiput, becoming golden yellow on forehead and front half of crown; chest, breast, and fore-abdomen pale yellow (paler than in a female Blue-wing), obscurely mottled with dusky; crissum and under tail-coverts white; a broad patch on the side of the face occupies the entire auricular region; a broad triangular black patch occupies the gular and jugular region and the chin; this patch is terminated by a very convex posterior border which almost joins with the auricular patch; a yellowish white malar stripe separates the two black patches; wings dusky, tinged with slate, and, in some lights, with a bluish tinge; greater wing-coverts edged with white, producing two conspicuous, parallel wing-bars; tail dusky, each of the two outer feathers (on each side) broadly marked with white, the third feather on each being merely tipped with that color.

It will be seen that this bird differs in several particulars from the specimen figured in the last number of BIRD-LORE.

Notes from Field and Study

A Strenuous Screech Owl

During the summer of 1903 my feeling for Screech Owls underwent a decided change, a large degree of respect being added to the fondness already felt for the species. It was all due to a family of five young ones which were discovered one day late in May, perched along a branch about thirty feet above the carriage drive. The parents were near and furnished good examples of the two extremes of color, one being decidedly gray, the other as rusty as a Thrasher. The youngsters were about evenly divided as to color; and how comical they were as they craned their necks to look down with those big yellow-rimmed eyes, or hunched up their shoulders till the heads were literally buried among the soft feathers!

All the afternoon they sat there in the sun scarcely changing their position, though the old birds had shifted; but about seven o'clock the familiar quavering call aroused them. The rusty parent appeared presently, and by short flights and many low calls—both the usual tremulous note and a soft 'coo coo coo coo,' that reminded me of the Mourning Dove—persuaded the little ones to leave their perches. But as it grew darker the rusty Owl began to object to my presence, flying past with loud cracking of the bill and sometimes a sharp 'γορω γορω!' and finally struck me on the side of the head a soft enough blow save for the pair of claws that seized my scalp with a grip that made me sympathize with any mouse they might fasten upon. The bird was gone in an instant, but I had no desire to prolong the experience.

A few weeks later the same family, presumably, moved into some trees near the house, and any one who approached that quarter after dusk was likely to hear many bill-crackings and angry, snarling notes, as the old bird—always, so far as I could judge, the rusty one—swooped past the intruder. At first we often replied to the calls, but

this made the rusty Owl so furious that it several times darted under the roof of the piazza and past our heads, and at last was emboldened to make another personal attack, this time slightly breaking the skin of the victim. The danger to eyes was too great, and all our calling was stopped. After that the birds made no trouble beyond angry notes and snapping, and by August even these ceased.—ISABELLA MCC. LEMON, *Englewood, N. J.*

Goldfinch and Tree Sparrow— Difference in Feeding

I noticed last winter a marked difference in the manner in which the Goldfinch and Tree Sparrow procure the seeds of the evening primrose when feeding upon the stalks sticking above the snow. The Goldfinch flies to the cluster of seed-capsules at the top of a stalk, and clings there while it extracts the seeds with its bill. The Tree Sparrow, on the other hand, alights upon the stalk and shakes it vigorously—making the seed rattle—until it has shaken out a number of the seeds, when it drops down to the snow and picks them up.—CHRESWELL J. HUNT, *Philadelphia, Pa.*

Taming a Red-eyed Vireo

While walking through the yard of Harvard University, Cambridge, last summer, my wife and I noticed, at the foot of some shrubbery near Appleton Chapel, a young Red-eyed Vireo in the early stages of learning to fly. Just above our heads, in the drooping boughs of one of those fine old elms, was the parent bird with food for its fledgling. To our surprise, before we could move away it dropped down into the bushes and fed the little fellow. Anxious to see how close the old bird would venture, we placed the young bird higher up in the bushes and took our stand close by. On her return the old bird did not hesitate, but came within a few feet of us and deliv-

ered her dainty morsel. Then, by placing the young bird on the forefinger and holding it in the bushes, we succeeded in persuading the mother to feed her young several times. To find out how much courage she would develop, my wife held the young bird on her hand several yards from the bushes and entirely clear of them. When the old bird came back, the first time her heart failed her and she hovered about us and then flew back to the elm. As we remained quietly, though there were many passing along the walk, she fluttered about and finally fed her young. This was repeated several times, usually with considerable scolding. Though we could not induce her to light on the hand, lack of time prevented us from carrying our trials any further. The fearlessness of the bird was surprising to us, never before having had such confidence shown us by a parent bird. We felt confident that with patient effort the mother would have lighted on our hands and fed her offspring. The amount of courage she did show, however, is worthy of note.—SAMUEL C. PALMER, *Sawarhmore, Pa.*

Mockingbirds in New Jersey

In the middle of the month of November, 1902, I saw a Mockingbird in the garden of a neighbor, who told me that it had been around for several days and had been noticed by other neighbors. I watched him for some time and might have let the incident pass had I not been told by Mr. Kimball C. Atwood, of Oradel, N. J., that he saw a Mocking-bird feeding on the berries of a vine overhanging his piazza, early in January, 1903. The bird appeared cold and hungry. He put out a squirrel's cage with food; the bird entered and was caught. He was transferred to a Mocking-bird cage and given tempting food, but became very restless; he evidently had not been reared in confinement. A few weeks later, while Mr. Atwood was in Florida, and hearing the songs of the free Mockers, the captive bird died. The question arises, Was this the same Mockingbird I saw five miles farther west a few weeks before, or was it one of a nest that had been reared here? A pair of Mock-

ingbirds bred near here, where the Home of Incurables now stands, some twenty years ago, but I heard nothing of them after that summer.—HENRY HALES, *Ridgewood, N. Y.*

A Thieving Chebec

On June 2, I found, in a small maple sapling by the side of a brook, a Yellow Warbler's nest containing four eggs. The mother-bird did not seem to object to my looking into her nest, but when I had withdrawn a short distance she began to chirp angrily. Turning around, I saw the cause of her trouble. A Chebec, or Least Flycatcher, flew to the side of the nest, and hovering on its wings began to pluck out some of the building material.

The poor Yellow Warbler, that had spent so much time and pains upon her cozy home, succeeded in driving him away, but not until he had stolen nearly all he could carry in his bill.

It seems very probable to me that the Chebec was building somewhere a nest of its own and so counted itself very fortunate (until it was driven away by the Yellow Warbler) in finding so much easily procured material.—ADDISON WILLIAMSON.

Two Years for an Oriole's Nest

For many years the Baltimore Orioles have nested in the elms about our house. Whether it is the same pair each year or not I cannot say, but I am inclined to think it is.

Two years ago they did not build near us as usual, so I was glad to find them at work in 1903, on a nest quite near the house. My pleasure, however, was short-lived, as the nest was deserted before it was half completed, and the birds disappeared from the neighborhood. About the middle of May, 1904, while looking at this unfinished nest, I saw a female Oriole fly into it and pick at it here and there, while her brilliantly colored mate flew down close to her and acted as though he wanted to help; but I have never yet seen a male Oriole working on a nest,—perhaps Madam objects. Since that time she has worked steadily, and now (May 23) the nest looks nearly finished.—FRANK T. ANTES, *Canandaigua, N. Y.*

Book News and Reviews

THE AMERICAN NATURAL HISTORY: A Foundation of Useful Knowledge of the Higher Animals of North America. By WILLIAM T. HORNADAY. Illustrated by 227 original drawings by Beard, Rungius, Sawyer and others; 116 photographs, chiefly by Sanborn, Keller and Underwood, and numerous maps and charts. Charles Scribner's Sons. New York. 1904. Royal 8vo. xxv + 449 pages.

This handsome volume treats of mammals, birds, reptiles, amphibians and fishes. One hundred and forty-one pages are devoted to birds, some one hundred and eighty North American and a few extra-limital species being dealt with. Lack of space has evidently forced the exclusion of such common species as Wilson's and the Hermit Thrushes, the Field and Chipping Sparrows, and other equally familiar birds, but, doubtless, enough are included to form the "foundation" the author has in view, for a broader knowledge of ornithology. A foundation, however, should have no weak places, and before this book passes to the succeeding editions we sincerely trust it will reach, it deserves a careful technical revision. The statements, for example, that "Alaska is yet to be heard from" in regard to Song Sparrows, that the Chuck-will's-Widow replaces the Nighthawk in the South, that the Black Skimmer "on our shores is a visitor of great rarity," and others equally incorrect, have no place in a work of this kind.

Song being the bird's most attractive characteristic, it is to be regretted that in a volume destined to have so wide a circulation as the one under consideration, fuller justice has not been paid to the musical powers of birds. The Bobolink, for example, is declared to be merely "a very acceptable singer"; the Chat, it is said, "has no regular song," no mention whatever is made of the vocal powers of such musical species as the Scarlet Tanager, Baltimore Oriole and Goldfinch, the song of the Ruby-crowned Kinglet, the author states, has "quite escaped" him, and since he does not re-

member ever having heard the Rose-breasted Grosbeak sing, he concludes that it can be "no great singer, not more than third-rate, at the best. . . ."

Perhaps, however, after all, descriptions of a bird's song may best be left to the bird itself, and Mr. Hornaday was wise in permitting the birds to deal with this subject while he pleads their right to the protection their great economic value to man should win them. Bird protection is, indeed, the text of many an eloquent sermon in this volume, and here Mr. Hornaday lays the stones of his foundation with no uncertain hand. With equal force he writes of recent imaginative, so-called 'nature books,' and his condemnation of this insidious type of literature should be taken to heart by every would-be naturalist.

No small part of the value of the portion of this book relating to birds is due to its numerous and generally excellent illustrations. Nearly one hundred of these are by Edmund J. Sawyer, whose work clearly entitles him to a place in the front rank of American bird artists.—F. M. C.

NORTH AMERICAN BIRDS' EGGS, by CHESTER A. REED, B.S. Illustrating the eggs of nearly every species of North American birds. New York. Doubleday, Page & Company. 1904. 8vo. 356 pages.

This book will be welcomed by every bird student as a handy work of reference on the nests and eggs of North American birds. Every species and subspecies found in North America north of Mexico is included. The classification and nomenclature is that of the American Ornithologists' Union's Check-List.

The account of each species is headed by its 'range.' In most cases the distinguishing points of the bird are then briefly stated and frequently short notes on food or habits are added. Here may be mentioned the ingenious use of small marginal figures of the birds which give an idea of their appearance to one not familiar with them. The book

has thus a broader scope than is indicated by its title.

The descriptions of the nests and eggs are of a rather general character, not always as definite and full as might be desired. The data of many of the eggs figured is also given.

The illustrations are the most important features of the work. The egg of almost every species is figured, natural size, and the ground color of the egg is indicated in brackets beneath it. Among the rarer eggs shown are those of the Carolina Paroquet, Solitary Sandpiper and Great Auk.

In addition, there are eighty-five illustrations (fifty of them full-page), reproduced from photographs of nests, most of them with eggs, others with parent or young. Many of these have appeared before in various publications and a considerable number are the work of the author. For the most part, they are very satisfactory. Among the most effective may be mentioned those of the Loggerhead Shrike, Redstart, Woodcock, Grasshopper Sparrow, Ruby-throated Hummingbird, Long-eared Owl and Red-eyed Vireo,—all but the first two showing the old bird sitting on nest.

In the preface the author gives excellent advice to young bird-students, condemning the indiscriminate collecting of eggs and advocating the study of the live bird and the use of the camera for photographing nests.—W. DEW. M.

BIRD LIFE STORIES: Compiled from the writings of Audubon, Bendire, Nuttall and Wilson, by CLARENCE MOORES WEED. Book I, Rand, McNally & Company, Chicago, New York, London.

With the very worthy object of supplying teachers with readable and accurate biographies of our common birds, Professor Weed has wisely gone to writers who loved truth no less than birds. Twenty-four species are included in the present volume, and each is illustrated by a colorotype of mounted birds.

The bibliophile will doubtless not approve of the modification of the 'language and punctuation' of the text of the authors quoted from without any indication whatever of the changes made by the compiler,

and it is to be hoped that in the future volumes of this series, which are announced, this difficulty will have been overcome.—F. M. C.

The Ornithological Magazines.

THE CONDOR.—The May-June number of 'The Condor' contains four general articles of more than usual interest. Under the title of 'The Home Life of a Buccaneer,' W. K. Fisher gives an interesting account of the habits of the Man-o'-War Bird on Laysan Island, describing the peculiar actions of the male and the inflation of his brilliant red gular sac during the mating season. The Man-o'-War Bird is almost incapable of walking on land but is perfectly at home in the air, so much so that it even drinks while on the wing. Emerson's article on the Farallone Islands gives the results of a visit to the wonderful bird rookery on the California coast in the summer of 1903, and compares the conditions with those which existed at the time of a previous visit in 1887. As might be expected, many changes were found to have taken place and some of the colonies had disappeared during the intervening sixteen years. We can scarcely have too many papers of this kind containing detailed studies of localities or breeding resorts of special interest, but what is especially needed are series of photographs of particular nesting colonies, or definite points, for comparison with similar views of the same spots in the future. Such photographs would bring out more clearly than any description possibly can, the changes which occur after the lapse of a few years.

Mrs. Bailey describes the nesting habits of the Rock Wren in New Mexico, and calls attention to the number of stones found in the nests or arranged like walks in front. Several of the twelve nests examined in 1903 contained a large number of stones, and one had 260 stones, none less than half an inch in length. The question naturally suggests itself, "How general is the Salpinctes use of stones, and what proportion of nests have the walks leading away from them?" Price contributes notes on birds found in

midwinter in the High Sierra, and enumerates nine species which are resident at that season. Two other papers complete the list of general articles: under the title 'Explanatory,' Belding gives some unpublished notes collected nearly twenty years ago, during the preparation of his 'Land Birds of the Pacific District'; and Hanna concludes his brief remarks on Nevada Birds. Among the notes 'From Field and Study,' W. K. Fisher records the interesting fact that in March, 1904, several Black-footed Albatrosses were observed executing their peculiar dance on the surface of the water about 100 miles at sea off San Diego, Cal. This interesting performance was first fully described in Fisher's 'Birds of Laysan Island,' and in his article in 'The Auk' for January 1904, pp. 11-14.—T. S. P.

WILSON BULLETIN.—The contents of 'Wilson Bulletin' No. 47, which has appeared since our last review, is as follows: 'Some Birds of Olympia, Wash.,' J. M. Keck; 'All Day with the Birds,' 'Oberlin all Day with the Birds,' Lynds Jones; 'An All-Day Bird Study,' B. H. Wilson; 'The Song of the Dickcissel,' P. M. Sil-loway; 'Spring Migration in Lorain County, Ohio, 1904,' Lynds Jones, and 'A Door-yard List from Morton Park, Ill.,' O. M. Schantz.

J. M. Keck includes 117 species in his list of the birds of Olympia, Wash., which is the result of occasional observations during the period between September 1 and May 5. In connection with this paper it might be of interest to consult that of S. F. Rathbone, who has studied the birds of Seattle (Auk, 1902, pp. 131-141), a locality situated a little to the northward on the sound. The migration during the past spring was of unusual interest, since vast numbers of species, far in excess of average seasons, swept northward over the country during the second and third weeks of May. As a consequence, most observers who were in the field for the purpose of being 'all day with the birds' were fortunate in seeing large numbers. The most remarkable list on account of the length, and one which any single observer will have difficulty in

equaling, is that of Lynds Jones, who, between 3:30 A. M. and 6:30 P. M. on May 9, identified 128 species in the vicinity of Oberlin, Ohio. With the possible exception of Southern Illinois and the Lower Hudson Valley, we know of no other locality where such a list could be formed.—A. K. F.

BULLETIN OF THE MICHIGAN ORNITHOLOGICAL CLUB.—In the June number of the Bulletin, B. H. Swales completes his 'List of the Land Birds of Southeastern Michigan,' recording 165 species in all. Other papers are 'Some Notes on the Life History of the American Redstart,' by J. C. Wood, and 'Birds in Decoration,' A. H. Griffith. There are numerous notes of interest from field and museum, while a page is devoted to the work of the Michigan Audubon Society. An editorial announces the preparation, by Prof. W. B. Barrows, of a new list of the birds of Michigan.—W. S.

Book News

'The Destruction of Birds by the Elements in 1903-04,' by Edward Howe Forbush, occupies pages 457-503 of the Fifty-first Annual Report of the Massachusetts State Board of Agriculture. It contains a large amount of valuable data, most of which, but for Mr. Forbush's well-directed efforts, would have escaped permanent record.

In the 'Bulletin' of the New York Zoölogical Society (No. 14, July, 1904), under the heading 'A Dangerous Exponent of Nature,' Mr. W. T. Hornaday, Director of the Society, characterizes Mr. William J. Long as "the most visionary writer who has ever appeared before the American public in the guise of a naturalist."

'Our Animal Friends' continues to publish many articles of special interest to bird students. The July number of this magazine contains several bird drawings, by Robert J. Sim, which deserve more than passing commendation.

A revised and enlarged edition of Walters' 'Wild Birds in City Parks' has been issued by the publisher, A. W. Mumford. It is announced that 8,500 copies of this useful work have been printed.

Bird-Lore

A Bi-monthly Magazine

Devoted to the Study and Protection of Birds

OFFICIAL ORGAN OF THE AUDUBON SOCIETIES

Edited by FRANK M. CHAPMAN

Published by THE MACMILLAN COMPANY

Vol. VI Published August 1, 1904 No. 4

SUBSCRIPTION RATES

Price in the United States, Canada and Mexico twenty cents a number, one dollar a year, postage paid.

COPYRIGHTED, 1904, BY FRANK M. CHAPMAN

Bird-Lore's Motto:

A Bird in the Bush is Worth Two in the Hand

THE editor begs the indulgence of correspondents and contributors whose communications, owing to an absence from which he has only recently returned, have remained long unacknowledged.

In this connection it may not be out of place to add a postscript to the letter to BIRD-LORE written from Miami, Florida, May 2, (BIRD-LORE, May-June, p. 103). After some discouraging experiences in the Okeechobee and Indian River regions, it may be remembered that we turned toward the Florida Keys with the hope of finding in these more remote districts some place which has escaped the plume-hunter's attention.

But, alas! Warden Bradley, who had sailed from Flamingo to Miami to meet us, brought only the most unpromising account of the birds in the county under his care. Plumers had looted the great Cuthbert Rookery, killing most of the egret-bearing Herons, and other species which it was especially desired to see were not to be found.

In the meantime news concerning Flamingoes was received, which required an early departure for the Bahamas; and since the especial object of our trip south was to study the almost unknown nesting-habits of these remarkable birds, we lost no time in setting sail for their headquarters. The uncertainties of cruising in these waters at this season is indicated by the fact that twelve days were required to make a four days' voyage. Nor did we at once discover the object of our search. Indeed, a month

had passed before the birds were actually found. This time, however, we were successful beyond our most ardent expectations. The difficulties incident to photographing and studying so wild a bird as the Flamingo were overcome with surprising ease, and, in the end, a series of photographs was secured which we believe will illustrate in detail the home-life of this species.

SCOFFERS at the necessity for accuracy in nature study, who say that so long as an interest is aroused in life out-of doors the means employed is quite immaterial, would, we trust, have a new conception of the responsibilities of those who seek to lead their fellows afield, rather than astray, after reading Mrs. Wright's admirable editorial on this subject in the last number of BIRD-LORE. In our opinion it would make an Audubon leaflet which could be used to great advantage.

AMONG the notes on Warblers which have been sent, us and of which we will make due acknowledgement in a later issue, none have exceeded in interest and scientific value those by Mr. Isaac Bildersee on the nesting habits of Lawrence's Warbler, published in this issue of BIRD-LORE. Indeed, we may add that the observations therein recorded are among the most definite and satisfactory of any concerning the puzzling relationships of Brewster's and Lawrence's Warblers with which we are familiar.

Reference to the colored figures of all the birds involved, which were published in the last issue of BIRD-LORE, will enable the student to whom specimens are not accessible readily to compare their color characters and at the same time to comprehend more clearly the various theories which have been advanced to explain the status of Brewster's and Lawrence's Warblers.

Observations made at a later date than those given by Mr. Bildersee, by Mr. Miller and others, left little room for doubt that all the six progeny of the Lawrence's and Blue-winged Warbler showed only the characters of the female parent, that is the Blue-wing. Even admitting the truth of this belief, however, it does not follow that the union of the birds was not true hybridism.

The Audubon Societies

"You cannot with a scalpel find the poet's soul,
Nor yet the wild bird's song."

Edited by MRS. MABEL OSGOOD WRIGHT and WILLIAM DUTCHER

Communications relating to the work of the Audubon and other Bird Protective Societies should be addressed to Mrs. Wright, at Fairfield, Conn. Reports, etc., designed for this department should be sent at least one month prior to the date of publication.

Bird Protection Abroad—IV. Japan

By T. S. PALMER

In previous papers of this series attention has been called to the bird-protective measures in force in three important British possessions of the Old World: India, South Australia and New Zealand.* By way of contrast it may be interesting to present an outline of the regulations adopted in Japan, a country which is not only attracting much attention at the present time but one which in recent years has been an important source of supply for certain birds used in the millinery trade.

The Japanese Empire comprises nearly 4,000 islands, which extend from 22° to 50° north latitude. Omitting Formosa, which has only recently been acquired, the four principal islands are Kiushu, Shikoku, Hondo, and Yesso or Hokkaido. These islands are situated between 31° and 46°, thus corresponding in latitude to the Pacific coast of America from the Gulf of California to the Columbia River. Their combined area equals approximately that of Montana, or of New England and the Middle States exclusive of Pennsylvania. Their topography is varied, and the diverse conditions existing at elevations between sea-level and over 12,000 feet, together with the extent in latitude, readily account for the variety in bird life. The birds are, however, still imperfectly known and the distribution of many of the species remains to be worked out.

The general game-law of Japan recognizes two main groups of birds, those which may be hunted during an open season and those which are protected throughout the year. These groups correspond to our game birds and non-game birds. For the first group two seasons are fixed: For Pheasants in general, *Kiji*, and Copper

Pheasants, *Yamadori*, the close season extends from March 1 to October 31; for the other game birds it extends from April 16 to October 14,^a except on Yesso, where it is one month shorter—from April 16 to September 14. Thus six or seven months are allowed for hunting the following birds: Bulbuls, *Hiyo*; Gray Starlings, *Mukudori*; Larks, *Hibari*; Shrikes, *Mozu*; Ptarmigan, *Raicho*; Quail, *Uzura*; Hazel Grouse, *Ezoyamadori*; Doves and Pigeons, *Hato*; and Snipe and Woodcock, *Shigi*.

The birds which are protected throughout the year, and consequently of most interest in this connection, are the following: Cranes, *Tsuru*; Swallows, except Martins, *Tsubame*; Marsh Tit, *Kogara*; Coal Tit, *Higara*; Great Tit, *Shijukara*; Nuthatch, *Gojukara*; Long-tailed Tit, *Enaga*; Eastern Gold-crest, *Kikuitadaki*; Fantailed Warbler, *Sekka*; Willow Warbler, *Mushikui*; Japanese Blue Flycatcher, *Ruri*; Flycatchers, *Hitaki*; Paradise Flycatcher, *Sankocho*; Wagtails, *Sekirei*; Wrens, *Misosazai*; Little Cuckoo, *Hototogisu*; Cuckoo, *Kakko*; Goatsucker, *Yotaka*; Scops Owl, *Mimizuku*; Ural Owl, *Fukuro*; Siberian Black Kite, *Tobi*; and Common Buzzard, *Kusotobi*. It is also unlawful to take, buy or sell the eggs or young of any of these birds.

The Japanese game-law contains some admirable features which are found in some of our state laws and which it would be advantageous for us to make more general. Thus explosives, poisons, spring guns, pitfalls and dangerous traps are not to be used in capturing game; shooting between sunset and sunrise is prohibited; permission must be obtained to hunt on cultivated or enclosed lands belonging to another person; no hunting is allowed in the Imperial preserves, *along public roads*, in public parks, in cemeteries, or within the

* See BIRD-LORE, V, pp. 37, 105, 173, 1903; VI, p. 36, 1904.

precincts of shrines and temples; and shooting may be prohibited within certain limits by the governor of a prefecture, if he deems it necessary to take such action.

Licenses are required to trap or shoot, and these licenses must be carried by the owner when in the field, must be returned to the authorities who granted them within thirty days after the date of expiration, and are subject to inspection by police, gendarmes, forest officers, or the chief of a city, town or village. Two series of licenses are in use: *A*, for capture of live birds or game with nets, lime rope or lime twigs, and *B*, for shooting. Each series is issued in three colors, for three different classes of persons, determined by the amount of taxes paid by the holder. First-class licenses (buff) are issued upon payment of 20 yen (\$10) to persons paying not less than 100 yen income tax, 500 yen land tax, or 150 yen business tax; second-class licenses (green) are issued upon payment of 10 yen (\$5) to persons paying not less than 3 yen income tax, 30 yen land tax, or 20 yen business tax. Third-class licenses (red) are issued to persons not belonging to either the first or the second class. The same rates apply to any members of the holder's family.

It will be noticed that although the law protects a number of birds, and among them several Hawks and Owls, it extends no protection whatever to Grebes, Gulls, Terns, Ducks, Geese or other water-birds or to many of the land-birds. Two species which are conspicuous in millinery trimmings, the White Tern and the Japanese Waxwing, are apparently unprotected. If the list of protected species were extended to include these and some others, and provisions were added covering export of birds or feathers and possession and sale of plumage, Japan would have a law which, properly enforced, ought to accomplish its object of effectively protecting both game- and other birds.

National Committee Notes

BY THE CHAIRMAN

A statesman once said that a country could not be prosperous or happy unless it had a public debt, as otherwise the people would

not be interested in the welfare of the state. If this be the correct standard, the National Committee has every reason for congratulation, as, notwithstanding the utmost efforts of the Chairman, along the line of scrimping and saving, a big deficit at the end of the fiscal year is staring him in the face. Wards must be paid, according to agreement; the educational leaflets should not be discontinued, but all this costs money, and the outgo for some time has been larger than the income, and the balance on hand of the Thayer Fund has been growing less and less. This is our public debt, and how can the Audubon members and the readers of BIRD-LORE be happy and contented unless they personally take the matter of finance to heart? The hundred thousand Audubon members in the United States can, with very little individual exertion, secure one dollar each toward the permanent endowment of the National Committee. There are thousands of persons who simply need the work of the Audubon Societies brought to their attention in order that they may become liberal supporters of it. Will not the junior Audubon members, everywhere, start at once a popular subscription of small amounts, to be placed in the permanent endowment fund? How proud and happy every junior will be in after-life to know that he took part in the initial movement to endow and thus perpetuate the work of the Audubon Societies!

By a letter vote, which was almost unanimous, it has been decided to incorporate the National Committee in the State of New York. The corporate name, 'National,' will indicate the scope of the work. The corporation laws of New York State do not make it necessary for more than one of the trustees and members of the Committee to reside in that state. The act of incorporation has not been completed as yet, owing to the time it has taken to determine the state in which to incorporate; however, substantial progress has been made.

Glorious news from Louisiana! The model law for non-game birds will be in force in that state on and after August 9! Look back! Two years since, the effort for good bird-legislation was defeated, and today the state has the best non-game bird-law in the

United States; for the bill submitted by the Audubon Society was the result of all of the legislative experience since Audubon work began. How was this result obtained? Simply by the strenuous efforts of good men and women throughout the state who immediately, after the defeat of 1902, started a campaign of education. When the citizens of a commonwealth learn the value of bird life, the demand for its protection is a natural sequence. How powerful this force can be is illustrated by the following bit of what is now history. House Bill No. 103 was a "*Proposed Law for the Protection of Non-Game Birds. An Act for the Protection of Birds other than Game Birds and their Nests, and to Provide for the Punishment of Violations Thereof*." Drafted and published by the Audubon Society of Louisiana." The bill was sent to a Committee and it was by them reported back to the House, amended in Section 7, relating to the traffic in live birds. It was the last despairing effort of the cage-bird dealers to perpetuate their cruel and wasteful trade. The House did not approve of this amendment, signifying its disapproval by a vote of 82 to 2. It immediately passed the bill as originally offered, by the same vote. June 24 the Senate passed the bill without a dissenting vote, and on June 29 the Governor officially notified the General Assembly that he had signed House Bill No. 103. It takes but a few words to tell this story to the bird-loving public, but it took months of time and much hard labor on the part of the President of the Audubon Society and his co-workers to accomplish the result, which could not have been secured without the great aid given by Mr. Page Baker, managing editor of the 'Times-Democrat,' who gave the most efficient help through the editorial and news columns of his paper. The thanks of all bird-loving people are due for such a high standard of civics. The passage of the model law in Louisiana is the capstone in the arch of legal protection in the United States, as it enables the Committee to prevent the sale and traffic in all parts of the country of such species as Mockingbirds, Cardinals, Nonpareils and Indigo-Buntings, through the enforcement of 'The Lacey

Act.' A few weeks since the Chairman visited the store of a bird dealer in New York, and in one large cage saw not less than sixty Mockingbirds, some of them so young that when the cage was approached the poor birds hopped to the wire netting fluttering their wings and opening their mouths to be fed. As nine-tenths of all the native cage-birds offered for sale in the United States were trapped or stolen from nests in Louisiana, the officers and members of the several State Audubon Societies need have no hesitancy in bringing action against cage-bird dealers who persist in the trade; however, it will be prudent in all cases to submit the facts to the Chairman for advice as to how to proceed legally in the matter.

In Massachusetts the effort to obtain protection for the beneficial Hawks and Owls was unsuccessful. The chairman of the Fish and Game Committee advised the introducer of the bill "that the Committee favored it, but thought it had no chance with the House." He suggested, therefore, that it be laid aside for consideration at the next session, and in the meantime an educational campaign be conducted with the members and the rural districts. The sessions of the Legislature in Massachusetts being annual, another effort for this very desirable legislation can be made early in 1905, and in the interim the advice of the Fish and Game Committee can be followed by the Audubon Society. The large number of local secretaries representing the Society should render this special educational work very easy of accomplishment. Notwithstanding all efforts to protect the Least Terns breeding on Martha's Vineyard, the colony seems destined to be gradually exterminated by eggging. A visit to Katama Beach by a resident of the Island, who is a warm friend of bird protection and who freely gives his services, revealed the fact that some vandals had visited the breeding-ground and, as far as could be judged by the empty nests, had illegally taken not less than 300 eggs. The Committee at once published in the 'Vineyard Gazette' an offer of a reward of \$25 for evidence that would convict the egg thieves.

The splendid legislative work of Mr.

George H. Mackay, of Massachusetts, deserves special mention, inasmuch as, single-handed, he has been the means of securing the adoption of laws the influence of which reaches far beyond the borders of his own state. Among them is the section relating to shore and marsh birds (*Limicolæ*), which reads as follows: "Whoever buys, sells, exposes for sale or has in possession any of the birds named in and protected by sections five or seven of this chapter, during the time within which the taking or killing thereof is prohibited, whenever or wherever the aforesaid birds may have been taken or killed, shall be punished by a fine of ten dollars for each bird."

That this beneficent law has been the means of saving the lives of thousands of shore-birds during the spring migration of 1904 is proved by the following: Dr. L. B. Bishop states: "Capt. E. Z. Gould, the chief market hunter of shore-birds in Dare county, N. C., writes, me that the new Massachusetts law preventing the sale of spring-shot shore-birds has made him give up shooting this spring. In addition to his own gun, he had four men shooting for him in the spring of 1902." Mr. Mackay writes: "You can add to the Gould episode from North Carolina another from New Jersey. W. E. Horner & Co., of West Creek, large shippers of spring birds, wrote to a firm of game dealers in Boston asking how many birds the firm could handle this spring. The reply was that they could not handle any, owing to the new law. Undoubtedly this law affected many other portions of the country; market hunters will not kill birds that they cannot sell or dispose of. The sportsmen of the country certainly owe to Mr. Mackay a debt of gratitude for this admirable legislation, which will do much to perpetuate the fast-disappearing shore- and marsh-birds."

A short tour of inspection along the Virginia coast was taken by the Chairman early in July, the details of which will be given in the annual report of the Committee; for the present it is only necessary to state that the most determined and watchful guardianship will be necessary for a long period to prevent the gradual but sure disappearance

of the marsh- and beach-breeding birds of that section.

Mr. William Alanson Bryan, Curator of Birds of the Bernice Pauahi Bishop Museum of Honolulu, H. I., has been in the States for some months on professional work. While he was in New York City a conference was held with the Chairman, with the result that Mr. Bryan will return to his home thoroughly enthused with the idea of establishing a Hawaiian Audubon Society, which will not only undertake to protect the birds of the Island of Oahu, but of all the islands of the Hawaiian group, and in addition such of the other Oceanic Islands as are under the jurisdiction of the United States. To that end he will prepare a detailed statement of the conditions which obtain at the several islands, with the needs for protection and with suggestions as to means to prevent the extinction of certain island forms of birds which have already become exceedingly rare. His report will be addressed to the Chief Executive of the United States, President Roosevelt, trusting that his great interest for bird preservation will cause him to direct the report into the proper channels for governmental aid. In this connection it is suggested that the British and German Societies for the Protection of Birds ask their respective Governments to give protection to the birds indigenous to the Polynesian Islands severally belonging to them. Mr. Bryan states that there is a Japanese corporation which is now actively engaged in collecting sea-birds' plumage for the Berlin, Paris and London feather markets.

Rev. W. R. Lord, of Massachusetts, on the invitation of a number of bird-lovers in Washington, visited in June that far-off northwestern state. During the month he was there he delivered many lectures and gave bird talks to a large number of teachers, scholars and the general public, with the result that great interest in bird protection was aroused. Mr. Lord writes that undoubtedly a little later in the season an Audubon Society will be formally launched in Washington. On his way home Mr. Lord stopped at Detroit, Michigan, and gave an illustrated bird talk in that city under the auspices of the Michigan Audubon Society.

NATIONAL COMMITTEE OF AUDUBON SOCIETIES

EDUCATIONAL LEAFLET NO. 10



THE AMERICAN SPARROW HAWK

Order — *Raptores*

Suborder — *Falcones*

Family — *Falconidae*

Genus — *Falco*

Species — *Falco sparverius*

The American Sparrow Hawk

By WILLIAM DUTCHER

Chairman National Committee of Audubon Societies

DESCRIPTION

Adult Male.—General aspect above bright rufous; top of head bluish slate with rufous crown patch, which varies very greatly in size in different individuals; a series of large black patches commences under eyes and extends to back of neck; back barred with black, in some birds profusely, others very slightly; sub-terminal broad band of black on tail, followed by white tip; outer feathers of tail and sometimes others marked with black and white, showing conspicuously from below; wing, upper part bluish, more or less spotted or barred with black, long quill feathers black, inner web barred with white, showing conspicuously from underneath; under parts varying from almost white to deep buff, more or less spotted, with black on sides and belly; throat white.

Adult Female.—General appearance above rufous, very heavily barred with black; head like that of male, showing similar individual variation; wing, long quill feathers, black spotted on upper surface with rufous, but showing silvery, barred with black, from below; underneath, whitish, heavily streaked with brown, varying in shade from pale to very dark.

The variation in the pattern of plumage of the Sparrow Hawks is very remarkable, making it extremely difficult to accurately describe the species. In a large series of specimens, hardly any two birds are exactly alike in detail.

Immature.—Plumage very similar to adults, the sexes being distinguishable as soon as the young are able to fly.

Size.—Male, from end of bill to end of tail varies from 8.75 to 10.50 inches; the female is larger, varying from 9.50 to 12 inches.

Nest.—Is in a cavity of some kind; a hole in a tree, either natural or the work of some Woodpecker, and, where trees are not available, a hole in a sandstone cliff or in a clay bank.

Eggs.—Usually from three to five, which vary in color from clear white to buff or cream; spotted, blotched, marbled, or sprinkled with shades of walnut brown, chestnut, cinnamon, rufous and ochraceous in varying patterns. "Scarcely any two sets are exactly alike." (Bendire.)

Distribution.—The Sparrow Hawk is found in all parts of North America, from Great Slave Lake southward to northern South America. West of the Rocky Mountains a slightly different species is recognized, known as the Desert Sparrow Hawk (*Falco sparverius phalaena*), and in Lower California is still another species, called St. Lucas Sparrow Hawk (*Falco sparverius insularis*); however, for the purposes of this leaflet, which is issued to call attention to the economic value of the Sparrow Hawks, but one species is described. The actual difference between the three species is so very slight that only the most expert and critical ornithologist can observe it; the layman can see no difference in the plumages, and as the habits of all are the same, and all deserve protection, consideration as separate subspecies is not necessary at this time.

The Sparrow Hawk is the smallest of the North American Hawks, and is also our most beautiful species, as well as being one of the most beneficial. Its name is singularly inappropriate, as it in no way resembles a Sparrow in form or habits, nor does it eat them to any serious extent. If it could be renamed at the present time, it might very properly be called the Grasshopper Hawk, because it destroys such enormous quantities of these destructive insects. The only species that the Sparrow Hawk can be confused with is the Pigeon Hawk or the Sharp-shinned Hawk. While it is always somewhat difficult to recognize some birds while flying, or even while at rest, yet it may be done by a careful observer, and it should be done in the case of the Sparrow Hawk because of its great worth and entire lack of harmful qualities.

The large amount of chestnut color on the back and tail of both sexes of the Sparrow Hawk is a strong distinguishing mark, the Pigeon Hawk and Sharp-shinned Hawk being much darker.

Below, the Sparrow Hawk presents a much lighter effect than the two other species, which are heavily barred or streaked underneath. The length of the wings is another very marked point of difference in the Sparrow Hawks. When the Sparrow Hawk is perched with wings folded they reach nearly to the end of the tail, while the wings of the Sharp-shinned Hawk fall far short of it. The flight of these small Hawks differs quite materially, the Sparrow Hawk being much given to hovering in the open, when it will drop to

the ground with a not very rapid motion and seize its humble game of a grasshopper and fly back to a perch and eat it.

The Pigeon Hawk and Sharp-shinned Hawk make a few rapid wing-strokes and then sail for some distance. The Sparrow Hawk hunts and perches in open places, while the Sharp-shinned Hawk confines itself to the woods and thickets, perching in a tree where it may be hidden. The note of the Sparrow Hawk is '*Killee, killee, killee,*' which once heard will always serve to distinguish this species from the two others with which it may be confounded.

Another very excellent means of identification of the Sparrow Hawk, if seen at or near its nesting site, is the location of the nest; if it is in a hole of any kind it is almost sure to belong to a Sparrow Hawk, while if it is a nest built of sticks and other material in the branches of a tree it is equally sure to be the nest of a Pigeon or Sharp-shinned Hawk.

As the Pigeon Hawk is not often found breeding within the limits of the United States, the tree nest, if found south of the Canadian border, will very likely be that of the Sharp-shinned Hawk.

These several distinguishing marks are given with the earnest hope that farmers, sportsmen and others who, in the past, have killed all Hawks, will in the future spare the Sparrow Hawk, owing to its great value to agriculture. When in doubt regarding the identity of a small Hawk, give the benefit of the doubt to the Hawk, and refrain from killing it, for you may thus spare a valuable bird, belonging to a species that during every twelve months renders service to the agricultural industry of the country that is far beyond computation, but if measured in dollars and cents would reach to very high figures.

This appeal for protection of the Sparrow Hawks, and the statements as to their value, would be worthless if they could not be supported by *facts*.

In the exhaustive report on this species, made in 1893, by Dr. A. K. Fisher, of the United States Department of Agriculture, will be found indisputable facts that prove the absolute value of this Hawk as a grasshopper- and rodent-destroyer, and, on the other hand, will show how little harm it does.

Three hundred and twenty stomachs were examined, which had been collected in widely separated parts of the country, and in all seasons of the year. In only one stomach was found remains of a game-bird; (it also contained 29 insects). This fact shows that the sportsmen have no excuse for killing a Sparrow Hawk, as it certainly does not molest game-birds. Fifty-three stomachs contained remains of other birds, the species being one that lived on or very near the ground. In almost every instance the stomachs of these 53 Hawks contained, in addition, insects or rodents of some kind. Eighty-nine birds had been eating mice of some species, while 24 Hawks had been eating other mammals, reptiles or batrachians. Two hundred and fifteen birds had been eating insects of various kinds, largely grasshoppers, crickets, beetles, caterpillars, etc. A stomach of a Hawk collected at Lockport, N. Y., in August, contained 30 crickets; another, collected in Dakota county, Nebraska, in July, contained a gopher and 38 insects; another, from Cedar county, Nebraska, in August, contained 35 grasshoppers, 24 crickets, 1 dragon-fly and 2 spiders; a West Virginia bird had eaten 25 grasshoppers, 10 katydids and 10 crickets; an Alabama bird, late in November, had eaten 25 grasshoppers, 5 crickets and 2 larvæ; while another, in February, had eaten a cotton rat.

Dr. Fisher summarizes as follows: "The subject of the food of this Hawk is one of great interest, and, considered in its economic bearings, is one that should be carefully studied. The Sparrow Hawk is almost exclusively insectivorous, except when insect food is difficult to obtain. In localities where grasshoppers and crickets are abundant these Hawks congregate, often in moderate-sized flocks, and gorge themselves continuously. Rarely do they touch any other form of food until either by the advancing season or other natural causes the grasshopper crop is so lessened that their hunger cannot be appeased without undue exertion. Then other kinds of insects and other forms of life contribute to

their fare; and beetles, spiders, mice, shrews, small snakes, lizards, or even birds may be required to bring up the balance.

"In some places in the West and South telegraph poles pass for miles through treeless plains and savannas. For lack of better perches, the Sparrow Hawks often use these poles for resting places, from which they make short trips to pick up a grasshopper or mouse, which they carry back to their perch. At times, when grasshoppers are abundant, such a line of poles is pretty well occupied by these Hawks. In the vicinity of Washington, D. C., remarkable as it may appear to those who have not interested themselves specially in the matter, it is the exception not to find grasshoppers or crickets in the stomachs of the Sparrow Hawks, even when killed during the months of January and February, unless the ground is covered with snow. It is wonderful how the birds can discover the half-concealed, semi-dormant insects, which in color so closely resemble the ground or dry grass. Whether they are attracted by a slight movement, or distinguish the form of their prey as it sits motionless, is difficult to prove, but in any case the acuteness of their vision is of a character which we are unable to appreciate.

"Feeding on insects so exclusively as they do, it is to be presumed that they destroy a considerable number of beneficial kinds, as well as spiders, which they find in the same localities as the grasshoppers. However, examination of their stomach contents shows the number to be so small, compared with that of the noxious species, that it is hardly worth considering.

"In the spring, when new ground or meadow is broken by the plow, they often become very tame if not molested. They fly down, even alighting under the very horses for an instant in their endeavor to capture an unearthed mouse or insect."

Study Points for Teachers and Students

Where is this Hawk found? Does it remain in your locality in winter? If not found in your locality in winter, when does it arrive in the spring? When does it leave in the fall? Is it rare or abundant in your section? What harm to agriculture is done by grasshoppers? By crickets? By mice and other rodents? How can you distinguish the Sparrow Hawks from Pigeon Hawks and Sharp-shinned Hawks? Give some reasons, based on your personal observations, why the Sparrow Hawk should be protected.

For valuable information regarding the Sparrow Hawks, consult the reference books named in Leaflet No. 8, Marsh Hawk.

Additional copies of this leaflet may be procured of William Dutcher, chairman, 525 Manhattan avenue, New York city.



1. BAY-BREADED WARBLER, MALE.

2. BAY-BREADED WARBLER, FEMALE.

3. BAY-BREADED WARBLER, YOUNG.

4. CHESTNUT-SIDED WARBLER, MALE.

5. CHESTNUT-SIDED WARBLER, FEMALE.

6. CHESTNUT-SIDED WARBLER, YOUNG.

(ONE-HALF NATURAL SIZE.)

Bird = Lore

A BI-MONTHLY MAGAZINE

DEVOTED TO THE STUDY AND PROTECTION OF BIRDS

OFFICIAL ORGAN OF THE AUDUBON SOCIETIES

Vol. VI

SEPTEMBER — OCTOBER, 1904

No. 5

President Roosevelt and Bird Protection

BIRD-LORE does not propose to enter the political field, but effective bird protection is so dependent upon proper legislation, particularly federal legislation, that it seems desirable at this time to reprint two letters written to the Editor of this magazine by the President of the United States when he was Governor of the state of New York, and published, respectively, in our issues for April, 1899, and June, 1900. The letters follow.—ED.

My dear Mr. Chapman :

I need hardly say how heartily I sympathize with the purposes of the Audubon Society. I would like to see all harmless wild things, but especially all birds, protected in every way. I do not understand how any man or woman who really loves nature can fail to try to exert all influence in support of such objects as those of the Audubon Society.

Spring would not be spring without bird songs, any more than it would be spring without buds and flowers, and I only wish that besides protecting the songsters, the birds of the grove, the orchard, the garden and the meadow, we could also protect the birds of the seashore and of the wilderness.

The Loon ought to be, and, under wise legislation could be, a feature of every Adirondack lake; Ospreys, as every one knows, can be made the tamest of the tame, and Terns should be as plentiful along our shores as Swallows around our barns.

A Tanager or a Cardinal makes a point of glowing beauty in the green woods, and the Cardinal among the white snows.

When the Bluebirds were so nearly destroyed by the severe winter a few seasons ago, the loss was like the loss of an old friend, or at least like the burning down of a familiar and dearly loved house. How immensely it would add to our forests if only the great Logcock were still found among them !

The destruction of the Wild Pigeon and the Carolina Paroquet has meant a loss as severe as if the Catskills or the Palisades were taken away.

When I hear of the destruction of a species I feel just as if all the works of some great writer had perished ; as if we had lost all instead of only part of Polybius or Livy.

Very truly yours,

THEODORE ROOSEVELT.

My dear Mr. Chapman :

* * * It was the greatest pleasure to sign the Hallock bill. Let me take this chance of writing a word to you in behalf of the work of your Society. It would be hard to overestimate the importance of its educational effects. Half, and more than half, the beauty of the woods and fields is gone when they lose the harmless wild things, while, if we could only ever get our people to the point of taking a universal and thoroughly intelligent interest in the preservation of game-birds and fish, the result would be an important addition to our food supply. Ultimately, people are sure to realize that to kill off all game-birds and net out all fish streams is not much more sensible than it would be to kill off all our milch cows and brood mares. As for the birds that are the special object of the preservation of your Society, we should keep them just as we keep trees. They add immeasurably to the wholesome beauty of life.

Faithfully yours,

(Signed)

THEODORE ROOSEVELT.



SOLITARY SANDPIPER

From nature, by T. L. Hankinson. Axton, Adirondacks, N. Y., Sept. 3, 1899

A Woodcock at Home

By E. G. TABOR

With photographs from nature by the author



No. 3. WOODCOCK'S NEST AND EGGS

FOR some time it has been the desire of the writer to make photographs of the bird, nest and eggs of the American Woodcock. Consequently, when a friend wrote me that he had found a nest containing four eggs I was more than pleased, and Tuesday, May 17, 1904, found me on the ground armed with my 'Premo' and a good supply of Seed's fastest plates.

The nest was situated in a swampy corner of a field planted with corn, only six feet from the open, on a slightly raised portion of the ground. This corner was overgrown with black ash, soft maple, tag alders and ferns, mingled with poison ivy and equally poisonous mosquitoes.

Photograph No. 1 was taken with single lens, the camera standing in the field; all the others were made with the regular lens. Photograph No. 2 was taken after moving the camera so as to get a side view. Number 3, of the nest and eggs, I obtained next, but not until I had touched the bird twice with my hand to flush her off the nest; and,

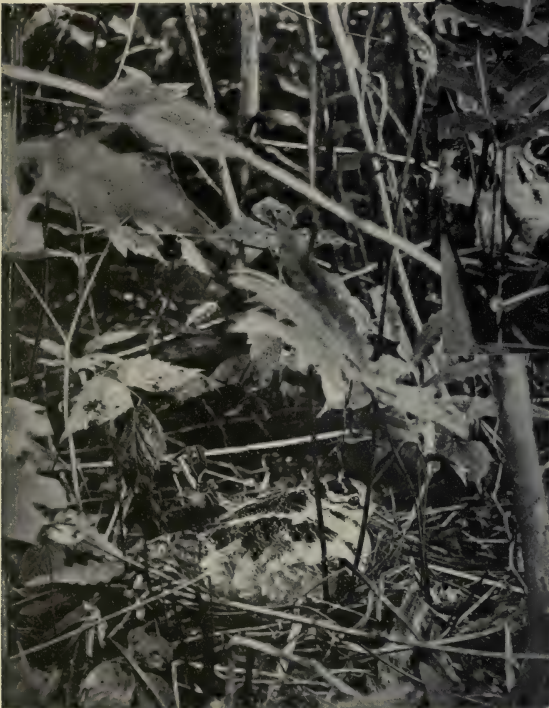
wishing her the best of success in her strenuous duties, I then went away from the place. Returning on Friday, May 20, just to see how matters were progressing, I was delighted to find awaiting me what you discover in photograph No. 4. I then withdrew, and two hours later I approached the nest again, only to find that all the young had left it. I tried to locate them, and, although I crawled all over the patch and looked in every nook and corner, behind and under every leaf and bush, I was unable to find the parent or the young. Quite disappointed, I went out of the place to a fence-

post and unchained 'Bob,' a liver-colored pointer, who in his eagerness to join in the search had almost whined his life away.

We went back, and, in less time than it takes to tell it, a Woodcock flushed not eighteen inches from where I had just crawled! Photograph-No. 5 shows what I found there. The young birds were then about two rods from the nest, and must have remained exactly in this position for at least a half-hour, as I took the dog back to his



No. 1.
FRONT VIEW
OF SAME
BIRD.



No. 2. WOODCOCK ON NEST

post, got the camera in position and took photograph No. 5 very hastily, then settled down and made two more exposures with great deliberation, so as to be sure of the matter. Afterwards I sat down, lighted a cigar

and smoked out some of the mosquitoes, listened to the cluck of the mother and a little later discovered her coming back through the tangle, never approaching near enough for a snap-shot, but all the while uttering her calls. Presently I heard a very tiny, plaintive and long-drawn-out *e-e-p*, and soon one of my little ones had gone, and in less than two minutes all had disappeared.

I tried every way after that to get a photograph of her and the young together, but this I now believe was



No. 5.
TWO HOURS
LATER THAN
THE LOWER
PICTURE



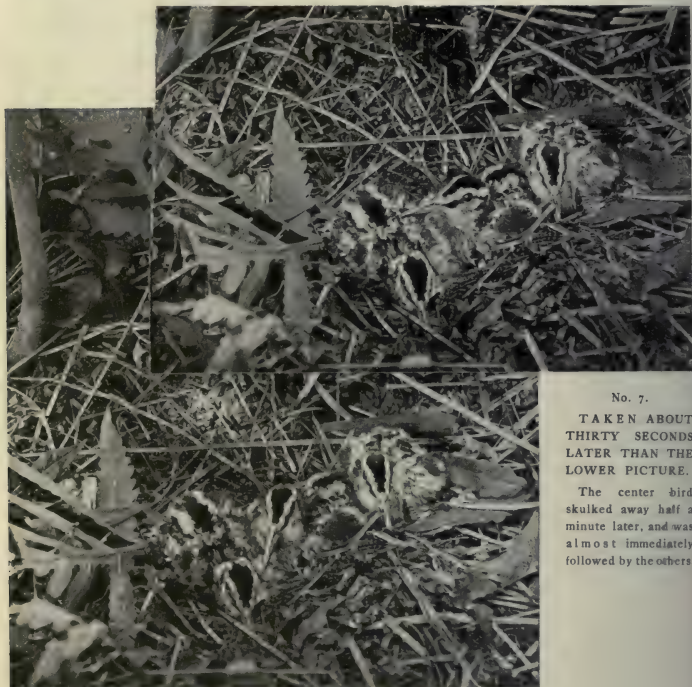
No. 4. YOUNG WOODCOCK IN NEST. HATCHED PRECEDING NIGHT

impossible, as she would not come nearer than ten feet of them, always calling them to her, nor could I get nearer than that to them when all were together. With reluctance I abandoned the attempt and left the place, trusting that I might be able to get something at a future day.

On Saturday, May 28, the young now being about nine days old, I

again visited the place to see if I could discover them, being careful to take Bob with me. In about ten minutes we found them, and photograph No. 6 was taken as hastily as possible. A minute afterward they had all slipped away.

A week later, June 4, I worked the place over carefully with Bob, but failed to find a single Woodcock. Twenty rods away, however, we flushed



No. 6. YOUNG WOODCOCK, NINE DAYS OLD

Showing the position in which left by the mother when flushed. They held this position about three minutes

No. 7.

TAKEN ABOUT THIRTY SECONDS LATER THAN THE LOWER PICTURE.

The center bird skulked away half a minute later, and was almost immediately followed by the others.

an old bird from a small clump of berry bushes, but could not find any others either young or old.

The first time I flushed the old bird from the young, after they left the nest, she flew only about a rod, fell all in a heap as if wounded, and made a noise with her wings like a Ruffed Grouse when commencing to drum, at the same time uttering a sound expressed best by the word 'twut.' This

she continued to do as long as I was near the young. She slipped around to the side and tried to attract my attention and get me away from the place where the young were; all this time they lay perfectly still, with their eyes nearly closed, as may be seen by referring to photograph No. 5. They did not stick their heads under foliage or leaves, as young Grouse do when hiding, but simply dropped flat with bill extended, as seen in the photographs. However, if one was touched or moved, as soon as freed it ran away about three feet, dropped to the ground for an instant and repeated this performance until out of sight.

At my second visit, the young lay only until all was quiet, then rose up and skulked away; the old bird did not *twut* except just as she flew up, but simply feigned injury at first and then sneaked to cover.

October Bird Music

By EARLE STAFFORD

OCTOBER, as regards the birds, may be justly termed an unmusical month. Not only have most of the songsters departed, but very few of the remaining ones favor us with their voices. Even at this time, however, when the first frosts whiten the meadows at sunrise, and the oak woods are in dull splendor, snatches of welcome melody may be heard to cheer the heart.

There is no bird, I believe, that is utterly silent during the month. The call-notes are necessary means of communication, throughout any season, but the song—that expression of an emotion not fully understood—is seldom heard from many of the birds, either residents or migrants. The Hermit Thrush, silent, dignified, passes through with scarce a word. He mounts from the dry leaves of a thicket to a swaying branch, and quietly observes us, perhaps giving a low *chuck*, as an indication of his annoyance. How different, too, the familiar Song Sparrow now skulking shyly among the weeds, from the same merry herald of spring! The season has affected his character, and when he does occasionally rise from his retreat and give his familiar ditty, or, as a substitute, a prolonged warble, it appears to be for his own consolation rather than for the pleasure of the world. The jolly Tree Sparrows arriving in the middle of the month are of a different mood; the drifting leaves and the biting north wind cause them no sorrow, while the fields and gardens are bountiful with a rich repast. No wonder October is a month of Finches. In company with the Tree Sparrows are Juncos, White-throats and Song Sparrows, and they spend the clear days among the thicket and goldenrod patches, busy with the multitude of seeds which nature has spread for them. The Tree Sparrows have a social jingling

twitter, remarkably pleasing, and suggestive of winter days, and not infrequently a White-throat will join the chorus with his silvery tremolo, given in a tenderness not suggested by the clear, brave whistle of summer. His common note, though, is a sharp *tsee-ep*, not unlike the call of the Brown Creeper.

The month is mainly one of concert music. In the swamps the Rusty Blackbirds carry on a pleasant bubbling undercurrent of quaint melody, which always brings to my mind a squeaky wheelbarrow pushed along by the edge of a noisy brook. With them are lingering Redwings, who rarely utter their rich songs; it is remarkable how many pleasant memories this simple phrase will recall. Goldfinches in large parties ripple among the asters. They have a perpetual overflow of sweet notes, which, heard from half a hundred, is wonderfully effective. The Purple Finch alights on a savin top to drop several rich, sweet measures, and then is off again till his flinty *tip* is lost in the distance.

If the year is one when the country is invaded by northern birds, the plaintive whistles of Pine Grosbeaks, and the *kimp* notes of Crossbills will be constantly falling from overhead, or mingling with the calls of Chickadees and Kinglets among the spruces, where the birds are busy with the evergreen seeds. The fresh 'phœbe' call of the Chickadee is a heart-warming bit of song, which I think may be heard every month in the year.

A not infrequent and thoroughly enjoyable surprise is to hear the song of the Ruby-crowned Kinglet during the month. It is not nearly so perfect as in spring; indeed the little fellow seems never to reach the beautiful climax of his song. He starts with all his vigorous preliminary chattering, gets to perfection his purring ripples, but, sadly, seems incapable of giving the final *bert-ber-wee* notes. I have heard but one Kinglet who omitted this valuable addition in the spring. Certainly his musical education had been shamefully neglected.

But the most wonderful singer of the month is the Fox Sparrow. Ordinarily, he may be said to be silent in fall, except for his call-notes, but when there is a large migration of the handsome birds we may often enjoy the thrill of their clear, mellow, sadly sweet songs from the midst of some bare thicket.



King Cole: A Biography

By SUSAN M. MORSE

KING COLE was only a common Crow, but a bird of such sagacity that I feel a true account of him and his doings would be interesting in these pages. He was a Canadian by birth and was brought home in a big boy's cap, one holiday afternoon, to his three sisters — I being one of them. Our brother had found the little fellow entangled in a pile of dead brushwood, where he had probably been deserted by his family.

Our big brother advised a worm diet for our charge, so we selected a corner behind the barn, where the mould was soft and rich and abounded in worms, and King Cole very soon learned to know the spot. He had the oddest way of going to the place. Wherever he happened to be at the time, whether near or far, he would start up quite suddenly, alert, as if struck with the idea of being hungry. Recovering himself quickly, off he would fly scolding and screaming at the top of his voice for some one to come and turn up the worms for him. As he grew older he was able to forage for himself, but he always did so distinctly under protest. He much preferred having the worms unearthed for him, and would sit on a rail near by and scream himself hoarse in order to attract our attention. If one of us did not soon appear, he would stalk around the corner to look for us. If no one was in sight (to tease him, we would often hide), back he would flounce, scolding all the time, and set to work himself with an air of deep disgust, as though he thought himself very hardly used. If one of us arrived at this stage of the proceedings, he would fly to us, flapping his wings and snapping his beak in a passion, and by muttering, croaking and screaming express his entire disapproval of our treatment of him. On our taking up the spade, his protest would subside into little mollified grunts and caws of anticipation. This change in his voice was almost articulate, and most expressive. He would watch eagerly for the worms, skipping warily around the spade to avoid the earth, and when he saw one would pounce upon it, gobbling and screaming at the same time, making the most outrageous noise imaginable.

In a few weeks King Cole was a full-grown Crow and as large and glossy a one as you could wish to see. To keep him at home we were obliged to clip his wings, and it was only when his feathers grew again and we neglected clipping them afresh that he began those flights abroad that got him in such bad repute among the neighbors. King Cole's tricks were without number — his mischief endless — his curiosity boundless. A tied-up paper parcel was a prize he dearly loved to come upon. He would deftly untie the string with his beak and strip off the wrappings in less than no time, and his peepings and peerings at the contents were a caution to see. Anything with a cover into which he could not pry was pain and grief to him. I have watched him sit for an hour on the top of a covered tobacco

jar, hardly big enough to hold him, and run his beak around the crack of the lid, vainly trying to open it.

The trick I found the hardest to forgive him was the destruction of some of my house plants. With great pains I had constructed a flower-stand I had seen described in some magazine, the basis of the affair being, I think, an old wash-stand and a couple of tin basins. It was fearfully and wonderfully made and I was vastly proud of it. Fancy my feelings when I came in one day and found everything a complete wreck, and King Cole seated on the top of all, surveying his work of destruction and talking softly to himself with an air of complete satisfaction. He had pulled up every geranium plant, stripped off all the leaves, and had laid the stalks in regular rows on the window-sill. The little yellow blossoms of a trailing plant were scattered far and wide about the room, some even on the mantel and the book-shelves, so that he must have carried them in his beak and laid them there; not a single blossom was left on the plant, and it had been very full of bloom. When the villain saw me, he gave a scream of fright and, scrambling out of the debris, flew out of the window and away, and did not return for several days.

We owned a clever little rat-terrier called 'Nettle,' at that time, but, compared with the wisdom of King Cole, Nettle's sagacity sank into insignificance. To tease her and a melancholy old cat who was then ten, and who lived to be seventeen years old, whom we called 'Mawther Gummidge,' was King Cole's greatest delight. He always went to work in precisely the same way. He would waylay Mawther, and, ambling gravely after her, nip her daintily on the joint of one of her hind legs. Mawther had learned to protect her caudal appendage from these rear attacks, so he was forced to open hostilities upon her leg. She was usually too deeply sunk in apathy to take to her heels at once and put herself beyond his reach, but would turn upon him with a look of deep reproach, whereupon he would rush violently at her nose. To protect that weather-beaten feature, poor Mawther would quickly turn about again, and so would catch it once more on the leg, only this time the tweak would be a hard one. This had the effect of rousing her meek spirit, and a very one-sided combat would follow, Puss getting much the worst of the battle. After putting her to rout, King Cole would fly upon the window-sill and mock his retiring foe by as good an imitation of her 'meows' as he was able to give. In time he became a very fair mimic; he could 'cluck' like a hen, gabble and hiss like geese, and if several people were talking together in his hearing he would retire to another room and there imitate them by uttering a succession of guttural sounds in different notes precisely like the voices of two or more persons conversing in low tones.

Nettle and King Cole were the best of friends, and, when the Crow was not in his mischievous mood, they would play together by the hour. Nettle bore his teasing more good-naturedly than did the misanthropic Mawther,

but was often obliged to defend herself, nevertheless. The little dog might often be seen running about with the Crow balanced cleverly on her back. She would carry him in this way all over the farm. Sometimes her little curled-over tail with a tempting tuft of hair at the end would prove too much for King Cole, and the ungrateful rascal would stretch out his head and slyly tweak it. To dislodge him Nettle would promptly roll over, but



YOUNG CROW

From nature, by E. G. Tabor

was no sooner on her feet again than the Crow would be in his place and ready for another tweak. I suppose I have seen this absurd performance repeated a dozen times before Nettle could make her escape.

The Crow was a most incorrigible thief, and made way with any number of trinkets, etc., during his lifetime, many of which we never found. Like the Magpie, which I believe is a first cousin to the Crow, he would steal, and hide in all sorts of places, any bright-colored or sparkling thing that took

his fancy. Sometimes he would bury his finds, at other times drop them down a crack, chink or knot-hole in the floor—anywhere, in fact, where he could frequently go and peep at them, always doing so with the greatest air of secrecy. I remember the first collection we came across. We were playing one day near a pile of wood, when Nettle, who was basking in the sun and playing idly with the Crow, suddenly jumped up and began sniffing near where two projecting logs next the side of the outhouse made a dark little corner. As soon as King Cole noticed this he flew into the greatest state of excitement; he flounced on the dog's back, scolding and screaming, and tried to drive her away. Finding violence of no avail, he tried coaxing. Sprawling on the ground before her, he stuck one leg awkwardly out, in a manner which usually proved irresistible to Nettle, to tempt her to a frolic. However, even this failed to draw her off the scent, and she went on sniffing until she ran her head quite under the ends of the logs. King Cole now evidently gave up all for lost, for, with the light of a desperate resolve gleaming in his eye, he bundled himself, with screams of rage, between the dog's feet, into where her shoulders could not pass. Scratching and burrowing with his beak, he unearthed presently a collection of crusts of bread, bones, bits of glass bottles, scraps of scarlet cloth, buttons, a broken knife-blade, and any number of pieces of buckwheat cakes. Determined that Nettle should not profit by her find, he fell upon the scraps of food and gobbled them up so fast that he very nearly choked himself to death. When Nettle was gotten away, there stood King Cole with a bit of griddle-cake crosswise in his beak, gasping for breath,—the very personification of selfish greed. Before night he had carried off all his treasures and hidden them afresh.

One day Meg was sitting at the open window sewing some buttons on her boots. She put her thimble down for a moment, and King Cole, who had been sitting on the low branch of a tree near by and crooning in an absent-minded sort of way to himself, suddenly dropped from his perch and pounced upon the thimble. He then flew to the ground with it, where he stood jabbering away, and looking saucily at Meg, first with one eye and then with the other. Out of consideration for my sister's stockinged feet, I ran to get the thimble. Just as I put my hand out for it, off he flew with it again—this time to the garden palings, where he laid it carelessly on the top of a post, and turned to gaze abstractedly across the field as if he had dismissed all thoughts of the thimble from his wicked little mind. He even sidled some distance away from the post, so that I was quite deceived into thinking he meant to give it up. Not a bit of it! The moment my hand went out for it, like a flash of lightning he snatched it up and was off with it again. This was too much for my sister at the window. "Oh, you stupid!" she cried, an sallied forth, bootless, but full of confidence in her own powers. I can laugh, to this day, when I think of that chase! Before it ended, poor

Meg's temper and her stockings were of about the same hue — decidedly black. He led her over acres of land, through a plowed field of soft, black soil, into which she plunged, regardless of her white stockings. Then on through an oat stubble, where poor Meg fairly danced in agony ; over any number of snake-fences with blackberry hedges on either side, not to speak of the various stone piles he selected as his stopping places. At each attempt to get the thimble from him, the little rascal allowed her to all but close her hand upon it. Never once did he snap it up until the very last moment.

After a while, she, learning something from the tactics of her enemy, changed hers, and tried the plan of knocking him away from the thimble with a long fence-rail; but he invariably got to it first, no matter how quickly she dropped the rail, and made a dash for the thimble. Next she tried the ruse of walking past him with studied unconcern, and returning with a rush. She even went so far as to pretend to go to sleep, her head a yard from the disputed property, and her hand ready for the clutch—but for each and all of her manœuvres he was fully prepared, and it seemed to me, who watched proceedings from a distance, that the victory was to be with the little black Crow, who did look such a tiny creature beside my tall sister of twelve years of age. You will never guess how it ended ! King Cole's manner of surrender was worthy of him. After leading poor exasperated Meg nearly back to the house again, he flew to the branch of a tree, the thimble held in the tip of his beak, and sat there eyeing her as she stood below, impotently threatening and hurling sticks and stones at him. Presently he tilted deliberately forward and dropped the thimble at her feet, sat up very straight, cocked his head on one side and muttered soothingly, saying as plainly as Crow could: " There, little girl, there's your thimble; I am done with it."

One of the Crow's favorite tricks, and his funniest, was to drop suddenly into a flock of strange fowls, whenever he came across any in the fields or barn-yards about (our own hens and he were the best of friends) and when, in a fright, they would disperse, he would affect to start and look about him, as much as to say " Dear me ! how is it I find myself alone ? " I have watched him do this many times, and the little by-play was always the same, and most amusing.

The terror of his life were his wild kinsmen, who soon found him out in his adopted home. They cordially hated him, and when they managed to catch him far from home without a protector would attack him savagely. More than once the men working in the fields saved him only just in time from being picked to death. Sometimes as many as four or five wild Crows would pursue him, clamoring loudly, almost to the house door, or to within a few yards of us if we were in the fields. I think, when one considers the

extremely wild nature of the common Crow, this is very remarkable. I remember once sitting at an open window, and hearing the peculiar cry King Cole always gave when frightened. He presently swooped in at the window with a wild Crow in full chase—who actually only turned back when I sprang up and waved my hands—positively ‘shooing’ him away. I was as badly frightened as King Cole, who meanwhile lost no time in scrambling beneath the sofa—for the stranger was a big, fierce fellow with glittering black eyes, and was snapping his great beak furiously.

When he finally beat a retreat, it was only to a tree not more than twenty feet from the house, where he stayed for some time, watching the window and clamoring angrily.

King Cole was very fond of going with us into the woods or fields to gather berries, and the way he would keep his weather eye open for his enemies was a caution. If he sighted one, in the distance, or heard a ‘caw’ overhead, he would come scrambling to us and creep under our pinafores, with little crooning utterances. From this safe retreat, he would poke his head cautiously out to rake the sky, first with one eye and then with the other, in search of his foes.

I remember a very funny thing that happened one day. We were gathering strawberries, and there was an old woman some distance from us picking away industriously—her wide-brimmed straw hat covering her shoulders. A bird’s-eye view must have shown little else than hat, I fancy. I don’t know what King Cole thought it was, but he dropped straight upon it with a couple of ear-piercing ‘caws,’ and over the old body went with a smothered howl of terror. Afraid to move, she lay stiffly with her feet half way up the side of a little knoll, her hands before her eyes fearing to behold the monster from the sky. We ran to help her up, explaining, and, when we got her on her feet, found she had fallen on her basket of berries, and her light-colored calico dress was stained with their juice, from her head to her heels, a sight to behold! We looked about for the author of the mischief, and there he was! Snuggled beneath the hat as quiet as a mouse, hoping, no doubt, to hide until the trouble blew over. We got the worst of it in the end, however, and were obliged to beat a hasty retreat, with King Cole wrapped up in Meg’s apron to save him from the wrath of the assaulted one, who gave us a very plain piece of her mind about keeping “sich creeters araound”!

Before long, we began to hear a great many complaints of our pet. One neighbor declared he had come in her window one morning and flown off with her tooth-brush; another, that she had found him in her kitchen with his legs embedded in a batch of bread-dough, which she had put to rise by the fire. Had she not been a tender-hearted soul, he would have met his death then and there. However, it was not long after this that he disappeared, and, though we looked and inquired everywhere, it

was a long time before we learned the cause and manner of his taking off. At last a friend confessed to us that a neighbor of hers who had suffered many a time from the raids of King Cole upon her chicken-yard, one day found him beneath the high valanced bed in her room worrying a little chicken he had driven in from the yard. The woman declared that her patience then and there came to an end, and so she summoned her husband to the scene. He brought his gun and put an end to our poor King Cole's life.



ROCKY MOUNTAIN JAY

From nature, by Evan Lewis, at Idaho Springs, Colo.

For Teachers and Students

The Migration of Warblers

SIXTH PAPER

Compiled by Professor W. W. Cooke, Chiefly from Data
in the Biological Survey

With drawings by LOUIS AGASSIZ FUERTES and BRUCE HORSFALL

BAY-BREASTED WARBLER

SPRING MIGRATION

PLACE	No. of years' record	Average date of spring arrival	Earliest date of spring arrival
<i>Atlantic Coast—</i>			
Chester County, S. C.			May 5, 1888
Washington, D. C.	3	May 13	May 9, 1903
Renovo, Pa.	6	May 13	May 11, 1897
Southeastern New York	5	May 8	May 3, 1899
Central Massachusetts	9	May 16	May 8, 1895
Southern Maine	6	May 18	
St. John, N. B.	6	May 21	May 15, 1889
Montreal, Can.	3	May 23	May 19, 1891
Picton, N. S.			May 23, 1895
<i>Mississippi Valley—</i>			
St. Louis, Mo.	4	May 7	May 3, 1883
Morgan Park, Ill.	5	May 5	May 2, 1900
Brookville, Ind.	3	May 8	May 2, 1884
Petersburg, Mich.	6	May 13	May 10, 1893
Southern Ontario	10	May 12	May 6, 1889
Ottawa, Ont.	14	May 17	May 11, 1886
Aweme, Man.	3	May 16	May 13, 1899

FALL MIGRATION

PLACE	No. of years' record	Average date of last one seen	Latest date of last one seen
Ottawa, Ont.	3 *	September 8	September 16, 1888
St. John, N. B.			September 1, 1890
Glen Ellyn, Ill.	7	September 18	October 4, 1897
Germantown, Pa.	3	September 28	October 19, 1885

CHESTNUT-SIDED WARBLER

SPRING MIGRATION

PLACE	No. of years' record	Average date of spring arrival	Earliest date of spring arrival
<i>Atlantic Coast —</i>			
Suwanee River, Fla.			April 10, 1892
Atlanta, Ga. (near)	8	April 28	April 17, 1896
Asheville, N. C. (near)	3	April 26	April 22, 1902
Raleigh, N. C.	2	April 28	April 27, 1886
French Creek, W. Va.	5	May 2	April 30, 1890
Washington, D. C.	4	May 3	April 30, 1891
Beaver, Pa.	5	May 2	May 1, 1902
Renovo, Pa.	9	May 3	April 30, 1901
Southeastern New York	14	May 6	May 2, 1899
Portland, Conn.	6	May 7	May 4, 1887
Boston, Mass.	14	May 6	May 2, 1897
Lewiston, Me.	8	May 12	May 7, 1899
Montreal, Can.	6	May 17	May 11, 1889
Scotch Lake, N. B.	6	May 23	May 18, 1897
Halifax, N. S.			May 24, 1895
<i>Mississippi Valley —</i>			
Southern Texas	3	April 20	April 17, 1890
Shell Mound, Miss.			April 15, 1892
St. Louis, Mo.	6	May 3	April 27, 1883
Brookville, Ind.	4	May 4	May 2, 1881
Chicago, Ill.	6	May 6	May 2, 1896
Petersburg, Mich.	10	May 6	April 28, 1889
Listowel, Ont.	11	May 6	May 2, 1900
Parry Sound District, Ont.	12	May 11	May 8, 1889
Ottawa, Ont.	16	May 14	May 8, 1895
Grinnell, Ia.	5	May 5	May 1, 1887
Lanesboro, Minn.	9	May 9	May 4, 1890
Elk River, Minn.	7	May 14	May 7, 1887
Aweme, Man.	3	May 20	May 18, 1897

FALL MIGRATION

PLACE	No. of years' record	Average date of last one seen	Latest date of last one seen
Lanesboro, Minn.	4	September 8	September 15, 1889
Ottawa, Ont.	5	August 23	September 12, 1885
Glen Ellyn, Ill.	6	September 19	September 26, 1895
St. John, N. B.			September 10, 1895
Beaver, Pa.	4	September 23	October 1, 1890
Berwyn, Pa.			October 8, 1891
New Orleans, La.			October 10, 1896



DISTRIBUTION OF SONG SPARROWS

Photographed from an exhibit in the American Museum of Natural History. Published by permission from the American Museum Journal

Climatic Variation in Color and Size of Song Sparrows

By FRANK M. CHAPMAN

THE American Museum of Natural History has lately placed on view the first exhibit of several designed to illustrate variation in the color and size of birds due to climatic agencies. It includes the leading types of Song Sparrows, a species which is particularly susceptible to the influences of its environment, no less than twenty climatic varieties, geographical races, or subspecies of this wide-ranging bird being known.

East of the Rocky Mountains, in a region where climatic conditions are quite uniform, only one well-marked subspecies of Song Sparrow is found ;

but west of the Rocky Mountains, where there are widely varying climatic conditions, sixteen subspecies of Song Sparrow are known, twelve of them from California alone.

There is a striking relation between the colors of the various races and the aridity and the humidity of the areas they inhabit. Thus the palest-colored race, the Desert Song Sparrow (No. 5, on the accompanying illustration), *Melospiza cinerea fallax* inhabits the most arid portion of North America, the desert region of Nevada, Arizona and southeastern California, where the annual rainfall averages about six inches; while the darkest-colored race, the Sooty Song Sparrow (No. 2, *Melospiza cinerea rufina*), inhabits the most humid portion of North America, the coast region of British Columbia and southern Alaska, where the annual rainfall may reach one hundred and twenty-five inches.

Note that, in obedience to the law that animals increase in size toward the north, the largest race, the Aleutian Song Sparrow (No. 1, *Melospiza cinerea cinerea*), is the most northern, and, the smallest race, the Mexican Song Sparrow (No. 6, *Melospiza cinerea mexicana*), is the most southern.

Between the lightest and the darkest, the smallest and the largest Song Sparrows, however, there is complete intergradation in accordance with the change in the conditions which affect their color and size.



NIGHTHAWK ON NEST

From nature, by J. E. Seebold, Carlisle, Pa.

Notes from Field and Study

A Station for the Study of Bird Life

Articles of Incorporation have just been drawn looking to the establishment, on a permanent foundation, of the "Worthington Society for the Investigation of Bird Life." The founder, Mr. Charles C. Worthington, will erect and endow, on his estate at Shawnee, Monroe County, Pennsylvania, the necessary buildings and equipment.

The Worthington Society will have for its purpose the consideration of bird life as it is found in nature, and will also have many birds under confinement for study and experiment.

The following is a summary of the chief topics that will present an immediate field for experimentation, which it is proposed by the liberality of the foundation to make continuous and exhaustive in the hope of reaching conclusive results.

I. The study and consideration of a bird as an individual. It is believed that by means of observation carried through the entire life of the individual, with a daily record, brief or elaborate, as exigencies may require, much will be learned regarding matters that are now obscure. Facts, such as growth, habits, health, temper, etc., will be daily reported.

II. The study of the occurrence, extent, nature and cause of variations in different representatives of the same species.

III. Changes in color and appearance correlating with age, sex and season.

IV. Changes in color and appearance due to light, heat, presence or absence of moisture, and to food. How rapid a change in appearance can be effected by a new environment or a new set of conditions?

V. Heredity. What general characteristics are transmitted? Are acquired characteristics transmitted? The consideration of atavism, prepotency and telegony.

VI. Experiments in breeding. Hybridity and the fertility of hybrids. The possibility of establishing a new physiological species.

VII. Experiments in change of color due to moult.

VIII. Adaptability. The plasticity of animals. How great a factor is this in domesticating new kinds of animals?

IX. The leisure of animals. How is this acquired? Being acquired, how is this employed?

X. Instinct, habit, and the development of intelligence.

XI. The possibility of breeding insectivorous and other beneficial kinds of birds, to re-stock a given region or to increase native birds, as has been done in the case of fish, by the United States Fish Commission.

A temporary laboratory and aviary is being equipped, and preliminary work will begin with the instalment of a large number of native and foreign birds early in September. Mr. Worthington has procured the services of Mr. William E. D. Scott, Curator of the Department of Ornithology at Princeton University, as Director of the proposed work. Mr. Bruce Horsfall has been engaged as chief assistant and artist. The corps of assistants and workers will be increased as the plans of the Worthington Society develop.

Our 'Bobs'

A few years since, on a Louisiana sugar plantation, a Mockingbird, about a week old, in some way fell from its nest, and would have been a prey for cats had not a bird-lover who had been paying daily visits to the nest found the little fellow who had met with the accident. The bird was brought into the house, and was at once installed as a member of the family, and treated to all the care and attention one would give a baby. A nest was made in the cage, and the young mocker was fed on bread and milk. He soon learned his meal hours, and would *peep* most lustily for some of his admirers to come and take him out of

his cage and feed him. Then he would be put back and go to sleep.

When he was three weeks old his diet was changed to worms and flies. Soon he was able to make exertions to pick up his food, and when he had secured a fly or other morsel, he would give a joyous little note of triumph, as much as to say, "See what I can do!" As he grew older, one of his peculiarities was that while he liked to run and hop all over you, you must not touch him, for, if you did, he would fly to an empty chair, to the railing, or to some other perch, and then scold you for your presumption. His master taught 'Bobs,' as the bird was called, a peculiar note which the master gave whenever he came about the house. Bobs was still only a learner in flight, however, and he ventured no very great distances. He would go down into the garden in pursuit of his food. The door of his cage was left open and he went in and out as he pleased.

The big birds were very jealous of this little fellow, and he, in a spirit of defiance, would go out and dare them, whereupon they would come after him. But Bobs knew that there was always safety to be had in retreat to the house and in shrieking as loudly as possible so as to attract the attention of some one of the household, and thus bring a protector to his assistance.

The house was surrounded by magnificent oaks. Bobs was given his first lessons in flight in the trees nearest the house. As he became more venturesome, he made longer flights of his own accord, but never passed the house without giving his peculiar call. It was also his habit to come to the porch about five o'clock in the afternoon, when the family were sitting there. Then the fun began for him. He would pick at the shoe-strings and struggle with them, pull out hair-pins, or walk over the book one was reading if no notice was taken of him.

Poor little Bobs had many enemies of his own kind, for Mockingbirds are known to be great fighters, and jealous of human interference as well, always trying to kill domesticated birds. One day when he was several months old he went away as usual, giving his signal as he passed the house, but he never returned, much to the great

grief of his friends and admirers. His rescuer went out among the trees in search of the missing pet, calling the bird by name, so well known to the little fellow, and giving the peculiar whistle also, to either of which Bobs had answered readily before. But now there was no response. Either the odds had been too great for him, or he had found a congenial mate and had gone back to the life of the birds.—ANITA PRING, New Orleans, La.

Purple Martins in Vermont

In the October, 1903, number of *BIRD-LORE*, I wrote of the disaster our Purple Martins had met with during the long, cold rain in June, in the loss of all their young. At that time we asked ourselves, "Will the Martins return next spring and take up their abode in the Castle again?" The question has been answered by a few Martins that came to the Castle this spring. Three males came April 25, and lingered about the house, apparently waiting for the arrival of females. About May 1, one female came, but the males could not induce her to remain but a few hours. Once after that she came to the house for a short interval. She seemed to see the scenes of last year's horror, and after uttering a few piteous cries she flew away.

The three males remained several days calling and looking for mates to come, but in vain. May 15, the Castle was silent, and no Martins have come to stay with us this year. We regret to think that our large Colony has gone, and there is no hope of getting them back this year; but we trust we may be more fortunate another year.

Through *BIRD-LORE* we wish to ask the persons who reported the loss of their Martins during last year's long, cold rain, if the birds returned this spring, and are breeding in the same houses?—FRANCES B. HORTON, Brattleboro, Vt.

Bird Notes from the Vicinity of New York City, 1904

Central Park.—April 30 and 31. Green-crested Flycatcher; May 1 and 8, Fish Crow; May 6 and 13, Lincoln's Sparrow—observed continually for more than an hour

and a half, at times at a distance of less than ten feet; May 6, 7 and 14, Golden-winged Warbler; May 10, 14, 15 and 21, Nashville Warbler,—heard singing on the first two occasions; May 10, 14 and 15, Bay-breasted Warbler; May 10, Mourning Dove; May 10 and 14, Gray-cheeked Thrush; May 13, Red-headed Woodpecker, Yellow-bellied Flycatcher, White-crowned Sparrow; May 28, Mourning Warbler.

Near Leonia, N. J.—April 17, Pigeon Hawk, Duck Hawk, American Pipit; August 21, Sora Rail.

Near Grantwood, N. J.—May 15, Yellow-bellied Flycatcher; July 10, Tufted Titmouse.

Near Englewood, N. J. (Woodland avenue and Mountain road).—July 10, Kentucky Warbler, Carolina Wren.

Bronx Park.—June 8, Cooper's Hawk; June 10, Broad-winged Hawk, Lawrence's Warbler. (See this volume of BIRD-LORE, p. 131.)

Coney Island (Manhattan Beach).—June 19 and 23, Least Bittern.

Long Beach, L. I.—July 24, Long-billed Curlew. Two Long-billed Curlews flew by me at a distance of about forty feet and at an altitude of about fifteen feet. When I first saw them they were flying directly toward me, but my presence caused them to swerve slightly from the original line of their flight. The weather at the time was very stormy—very heavy rain accompanied by a violent southeast wind; July 31, Rough-winged Swallow, Herring Gull.—ISAAC BILDERSEE, *New York City*.

Another Tame Vireo

In 'Notes from Field and Study' of August BIRD-LORE, I noticed Mr. S. C. Palmer's account of Tame Vireos. One day last summer I saw a young Red-eyed Vireo sitting on the edge of its nest, about ten feet from the ground. Touching the tree with my hand, the young bird fluttered down to the earth. At that moment the mother-bird returned with food. Wishing to test her courage, I sat down on the ground with my legs apart, and placed the young one between. After flying around a few times, the

female perched on my shoe and fed the young bird; and afterwards she perched on my leg, just below the knee. I have no doubt that she would, in time, have fed her offspring if I had put him in my hand. But after she had fed him from my leg, I put the young one on a branch, and left him to his mother's care, as both were frightened.—C. L. BARNWELL, *Bar Harbor, Maine*.

A Pair of Wood Pewees

Mr. Henry Hales' interesting account of the intelligence of a pair of Cliff Swallows in the construction of their nest, recalls to my mind an incident which came under my observation, showing not only considerable apparent reasoning power in birds, but much paternal devotion as well.

In the heated summer of 1901, a pair of Wood Pewees built their nest near the end of a limb of an oak tree in our lawn. The nest happened to be so situated that for about two hours of the hottest portion of the day the sun shone directly upon it. During those hours, one of the birds—my wife said of course it was the mother, and I presume she was right—was always found above the nest with wings extended, so as to shade the little ones from the sun. The sun was usually so intense that we almost always found the bird with open mouth panting in the sun. The punishment must have been very severe, and the sacrifice made by the bird would have done honor to a mother of the human race. But the special point is, the action of the bird could not have been prompted by instinct, as I have never seen or heard of a similar instance with birds. The bird must have reasoned that the heat of the direct rays of the sun would destroy her young, and she took that means to preserve them. In the words of Mr. Hales, "It seems to me to be a case for which an unreasoning instinct does not sufficiently account."—G. M. ALVES, *Henderson, Ky.*

[The action noted by our correspondent is probably not uncommon. Herrick's admirable 'Home - Life of Birds' contains photographs of three species shading their young with half-spread wings.—ED.]

Book News and Reviews

REPORTS OF THE PRINCETON UNIVERSITY EXPEDITIONS TO PATAGONIA, 1896-1899. Vol II. ORNITHOLOGY, Part I. RHEIDÆ-SPHENISCIDÆ. By WILLIAM EARL DODGE SCOTT, associated with R. BOWDLER SHARPE. 4to, pages 1-112, numerous text cuts.

This handsome work, when completed, will evidently be an exhaustive treatise on the ornithology of the region to which it relates. With each species there is given a full synonymy, detailed description of plumage, one or more pen-and-ink drawings, usually of the head; a statement of its geographical range, list of specimens secured by the expedition, discussion of relationships, and remarks on habits. It is to be hoped that the succeeding parts will appear without undue delay. The absence of a prefatory note, descriptive of the labors and personnel of the expedition, of the area covered and extent of collections secured is to be regretted. Possibly this will be supplied later.—F. M. C.

A MONOGRAPH OF MARCUS ISLAND. By WM. ALANSON BRYAN. Occasional Papers, Bernice Pauahi, Bishop Museum, II, 1, 1903, pages 77-139; Birds, pages 95-116; map and half-tones. Honolulu, 1903.

Marcus Island is a small coral islet some 2,400 miles from Honolulu and 1,200 miles southeast of Yokohama. Mr. Bryan reached it July 30, 1902, and passed a week in the study of its formation and life. Eighteen species of birds, all sea-birds, most of which were breeding, were found. Several species of Terns were exceedingly abundant and a small colony of Japanese has settled on the island, to secure skins of these birds for millinery purposes. Of the Sooty Tern alone, Mr. Bryan tells us, "not less than 10,000 birds" are slaughtered during the six months from March to September. Fortunately, since his visit, the island has become an American possession and the birds, thanks to the efforts of the Chairman of our National Committee, will re-

ceive much needed protection. Surely all bird-lovers should be expansionists!

Mr. Bryan's description gives us a clear idea of the character of the island, while his graphic notes on its bird-life not only make capital reading but add not a little to our knowledge of the species treated.—F. M. C.

PAPERS FROM THE HOPKINS-STANFORD GALAPAGOS EXPEDITION, 1898-1899. XVI. Birds. By ROBERT EVANS SNODGRASS and EDMUND HELLER. 8vo, pages 231-372.

In this admirable book, also, we miss an introduction which would inform us of the conditions under which the authors worked, actual time devoted to collecting, islands explored, etc. For the work itself we have only the highest praise. None of the many naturalists who have visited this faunally remarkable group of islands appears to have made so close a study of its bird-life as the present authors. With a biological training which prepared them to appreciate the significance of the many facts in distribution and habits which came under their observation, their notes are of the highest importance to the student of the relationships of Galapagos birds, as well as to the general subject of evolution by environment.—F. M. C.

THE BIRDS OF NEW HAMPSHIRE. By GLOVER MORRILL ALLEN. Proc. Manchester Inst. of Arts and Sciences. IV. 1902. 8vo, pages 19-222.

BIRDS OF THE HUACHUCA MOUNTAINS, Arizona. By HARRY S. SWARTH. Pacific Coast Avifauna No. 4, Cooper Orn. Club, Los Angeles, Calif. 1904. Royal 8vo, pages 1-70.

THE BIRDS OF ERIE AND PRESQUE ISLE, Erie County, Pennsylvania. By W. E. CLYDE TODD. Annals Carnegie Museum, II. 1904. Pages 481-596, 1 map, 3 half-tones.

Here are three authoritative faunal lists which will doubtless long remain the stand-

ard publications on the birds of their respective regions. Mr. Swarth's list is based largely on observations made by himself between April 25 and July 20, 1896; March 29 and September 5, 1902, and February 17 and May 30, 1903. His list of 195 species he believes to represent fairly the resident and summer resident birds, and thinks that further field work would add some migrants and an occasional straggler. It contains no less than eleven of our seventeen Humming-birds. His annotations are often extended, a page or more frequently being devoted to a single species.

Mr. Allen summarizes our knowledge of the distributional status of Vermont birds. He lists 283 species as having been positively ascertained to occur in the state, and in this connection comments on the necessity for care in identification, saying, "The trained naturalist, who appreciates at what pains facts are determined, is content to leave unrecorded that of which he is in doubt. Of much greater value is it to establish one new fact in the life-history of a common bird than to record the accidental presence of a species far from its normal range," a remark which should be taken to heart by every student of birds with an opera-glass. Mr. Allen, in addition to an exceptionally well-annotated list, presents an interesting historical introduction, a copious bibliography, and, what is too often lacking from local lists, an index. It is satisfactory to observe that the author has followed the A. O. U. 'Check-List' in nomenclature and classification rather than the inconvenient system employed in 'The Birds of Massachusetts,' of which he was joint author.

Mr. Todd also gives us a paper containing all the information available concerning the bird-life of the area under consideration. He enumerates 237 species, with extended annotations, a descriptive introduction and bibliography. The reviewer notes with surprise that the Dickcissel is admitted to the list on the authority of only a single observer. While visiting the late George B. Sennett at Erie during the last of May and first of June, 1890, he observed at least six individuals of this species which were evidently breeding near the city.—F. M. C.

BABY PATHFINDER TO THE BIRDS. By HARRIET E. RICHARDS and EMMA G. CUMMINGS. W. A. Butterfield, Boston. 1904. Oblong, 64mo. 1-125 pages, numerous outline cuts in text.

This pocket booklet treats of 110 common eastern birds, giving with each one a description of plumage, characteristic habits, notes, nesting site and breeding range. At least one species of each family is figured. Every other page is blank and is designed for field memoranda, a fact which, in connection with the book's small size, should commend its use as a field book where more bulky volumes would be out of place.

Both authors have had extended experience in studying birds through an opera-glass, and are, therefore, specially fitted to administer to those who would name birds in nature.—F. M. C.

OUR BIRDS AND THEIR NESTLINGS. By MARGARET COULSON WALKER. American Book Company. 12mo. 1-208 pages, 14 colored plates, numerous half-tones.

This book seems admirably adapted for the use of the primary teacher who would arouse in her pupils an interest in our common birds.

Twenty common birds are dealt with biographically. Stories and poems concerning them are interspersed at intervals.

Fourteen colorotypes from mounted birds facilitate identification, and, with numerous photographs of nests, eggs and young birds, chiefly by Herrick and Dugmore, should hold the child's interest and stimulate its curiosity. We note that in republishing Ernest Seton's verses, 'The Myth of the Song Sparrow,' the author has failed to say that they originally appeared in BIRD-LORE.—F. M. C.

NOTES ON THE HERONS OF THE DISTRICT OF COLUMBIA. By PAUL BARTSCH. Smithsonian Miscell. Colls. Vol. XL. Washington, 1903.

Nine species of Herons have been recorded from the District of Columbia, four of them as breeding, and Mr. Bartsch here tells of the status of these birds and gives us the results of his experiences with them. Specially interesting are his studies on a colony of

Black-crowned Night Herons, with numerous illustrations, and his photographs of Little Blue Herons and American Egrets, the former of which, in immature or white plumage, appear to be surprisingly common about Washington in the late summer.—F. M. C.

THE INHERITANCE OF SONG IN PASSERINE BIRDS. By W. E. D. SCOTT. Science, June 24, 1904, p. 957; August 26, 1904, p. 282.

Mr. Scott here presents another of his careful studies of individual birds with particular relation to the inheritance of song. The species treated are the Rose-breasted Grosbeak and Meadowlark, broods of both of which were reared by hand isolated from other birds of their kind. The details of Mr. Scott's observations are exceedingly interesting, and his papers should be consulted by those interested in the subject of inheritance of nest-building ability as well as of song. Here we have only space to say that neither Grosbeaks nor Meadowlarks developed the song of their species, but were both influenced by the notes of other species within their hearing; the former by an Indian Bulbul, the song of which they acquired so exactly that it was difficult "to tell which species was singing," the latter by the European Blackbird.

Students of the molt in birds, in reading Mr. Scott's statement that he is "strongly inclined to the opinion that there is a physical change in the feather itself, which alters its appearance so far as color is concerned," will wish that he would give at length the grounds on which this opinion is based.—F. M. C.

The Ornithological Magazines

THE AUK.—'The Auk' for July furnishes an unusual amount of profitable reading, and those of a speculative turn of mind will enjoy 'A Discussion of the Origin of Migration' by P. A. Taverner, as well as 'The Origin and Distribution of the Chestnut-backed, Chickadee' by J. Grinnell. It is Mr. Taverner's theory, perhaps not altogether a new one, that migration originated because certain areas, already fully peopled with birds, overflowed

when, with the advent of the nesting season these areas failed to afford an adequate food supply for the additional young birds. This was the cause of spring migration, and diminution of food in the fall gradually drove the overflow back into winter quarters, limited by the supporting powers of the land. Mr. Grinnell's article is perhaps the most serious of its kind yet offered by a biological ornithologist of the modern school. The Chestnut-backed and the Hudsonian Titmouse are here derived from a common ancestor, of which each was a geographical race until isolation took place. The former now appears to have further differentiated into three races, and all of these hypothetical derivations are nicely shown by a map. The reader should remember, however, that with a corner-stone of hypothesis, a structure of graceful proportions may be more fanciful than real.

A classification of the Tyrannidæ according to anatomical and other biological characters is advocated by H. Von Ihering, and J. A. Allen illustrates the follies of synonymy by the word 'Catharacta' spelled in eight different ways. In lighter vein are extracts from an unpublished journal of Audubon's by R. Deane, while W. W. Cooke and E. H. Eaton furnish some notes on migration. An annotated list of the birds of the upper Pecos River, New Mexico, is written in Mrs. F. M. Bailey's pleasant style, but we regret to see 'Baird Sparrow,' 'Virginia Warbler,' etc., admitted to the 'Auk' instead of the possessive case being used. Evolution may some day eliminate the 's' as unfit, but except in geography it is still customary to write English as 'she is wrote.'

A thirteenth supplement to the A. O. U. Check-List closes the magazine, in which other matters of interest will be found besides the ones touched upon so briefly.—J. D., Jr.

Book News

Mr. H. E. Dresser has issued a prospectus of his forthcoming work on 'The Eggs of the Birds of Europe,' details of which may be obtained from the author at 3 Hanover Square, London, W.

Bird-Lore

A Bi-monthly Magazine

Devoted to the Study and Protection of Birds

OFFICIAL ORGAN OF THE AUDUBON SOCIETIES

Edited by FRANK M. CHAPMAN

Published by THE MACMILLAN COMPANY

Vol. VI Published October 1, 1904 No. 5

SUBSCRIPTION RATES

Price in the United States, Canada and Mexico twenty cents a number, one dollar a year, postage paid.

COPYRIGHTED, 1904, BY FRANK M. CHAPMAN

Bird-Lore's Motto:

A Bird in the Bush is Worth Two in the Hand

WE have before remarked that effective bird protection means not only preventing the decrease of birds but taking measures which will result in their increase. We consequently are glad to respond to a general demand for information in regard to suitable types of bird 'boxes' or houses. It is proposed to devote a large part of an early number of BIRD-LORE to this subject, and we ask the assistance of our readers in securing photographs of bird homes which they have found to meet the demands of various bird tenants.

In the 'Atlantic Monthly' for July John Burroughs discusses in a logical and convincing way 'The Literary Treatment of Nature.' The article should be read, and read carefully, by every one interested in the popular presentation of natural history subjects. The literary naturalist should have as much regard for facts as his scientific brother. It is in his presentation of them that he will depart from the formal and stereotyped methods of science.

The technical scientist addresses co-laborers in a similar field. At the outset he is assured of their attention and comprehension. A place of publication is provided in the Proceedings of learned Societies or Bulletins of Museums. He is not subject to editorial dictation nor under the slightest obligation to make himself interesting. He clothes his statements in the language of

science, a garb well designed to disguise the most attractive form.

The literary naturalist, on the other hand, must primarily be interesting. This is an editorial requirement. He writes for publications whose existence depends on the pecuniary support they receive from the public. His articles must help sell the medium in which they appear. Now the literary naturalist may command the public ear in a variety of ways. He may be an unusually keen student of nature whose accounts of what he has observed, though simple in form, are readable because of their inherent merit. He may see no better than the rest of us but possess descriptive powers which, as Mr. Burroughs says, will enlist our sympathies and arouse our enthusiasm by so presenting his facts that their relation to our lives is emphasized. Or he may 'interpret' what he has seen or heard. Such interpretation, as Mr. Burroughs clearly points out, is not a scientific explanation, demonstration or hypothesis. It is not expressed in the vocabulary of science but in terms of his own personality,—an interpretation of self. So Mr. Burroughs remarks, "What do Ruskin's writings upon nature interpret? They interpret Ruskin"; and in the same issue of the 'Atlantic' the comment is strikingly verified by Ruskin himself, who in a letter to Charles Eliot Norton, writes, "When I am happy, a sparrow's chirp is delicious to me. But it is not the chirp that makes me happy but I that make it sweet."

Unfortunately, the desire to treat natural history subjects successfully in a literary way does not always lead to its fulfilment. The power to enjoy and appreciate does not imply the power to express. Hence the many manuscripts descriptive of experiences afield which fail to convey to the reader one thrill of the joy the writer labors fruitlessly to share with him. He lacks the power to transmute his pleasure into pleasure-giving words and sentences; he cannot interpret.

It is left to him, however, to see. If he cannot place an old fact in a new light, perhaps he can discover a new fact, when the world and consequently the editor will ever be ready to listen to him.

The Audubon Societies

*"You cannot with a scalpel find the poet's soul,
Nor yet the wild bird's song."*

Edited by MRS. MABEL OSGOOD WRIGHT and WILLIAM DUTCHER

Communications relating to the work of the Audubon and other Bird Protective Societies should be addressed to Mrs. Wright, at Fairfield, Conn. Reports, etc., designed for this department should be sent at least one month prior to the date of publication.

DIRECTORY OF STATE AUDUBON SOCIETIES

With names and addresses of their Secretaries

California.....	W. SCOTT WAY, Pasadena.
Colorado.....	MRS. MARTHA A. SHUTE, Denver.
Connecticut.....	MRS. WILLIAM BROWN GLOVER, Fairfield.
Delaware.....	MRS. WM. S. HILLES, Delamore Place, Wilmington.
District of Columbia.....	MRS. JOHN DEWHURST PATTEN, 2212 R street, Washington.
Florida.....	MRS. I. VANDERPOOL, Maitland.
Georgia.....	PROFESSOR H. N. STARNES, of Experiment.
Illinois.....	MISS MARY DRUMMOND, 208 West street, Wheaton.
Indiana.....	FLORENCE A. HOWE, Hillside Ave., Indianapolis.
Iowa.....	MRS. W. F. PARROTT, Waterloo.
Kentucky.....	MISS JULIET O. ALVES, Henderson.
Louisiana.....	MISS ANITA PRING, 1682 Peters ave., New Orleans.
Maine.....	MRS. C. B. TUTTLE, Fairfield.
Maryland.....	MISS ANNE WESTON WHITNEY, 715 St. Paul street, Baltimore.
Massachusetts.....	MISS JESSIE E. KIMBALL, care Boston Society of Natural History, Boston.
Michigan.....	JEFFERSON BUTLER, Suite 79, Home Bank Building, Detroit.
Minnesota.....	MISS JESSIE WHITMAN, 2356 Bayless ave., St. Paul.
Missouri.....	AUGUST REESE, 2516 North Fourteenth street, St. Louis.
Nebraska.....	MISS JOY HIGGINS, 544 South 30th street, Omaha.
New Hampshire.....	MRS. F. W. BATCHELDER, Manchester.
New Jersey.....	MISS JULIA SCRIBNER, 510 E. Front street, Plainfield, N. J.
New York.....	MISS EMMA H. LOCKWOOD, 243 West Seventy-fifth street, New York City.
North Carolina.....	T. GILBERT PEARSON, Greensboro.
North Dakota.....	MISS ELIZABETH L. ABBOTT, Grand Forks.
Ohio.....	MRS. D. Z. MCCLELLAND, 820 West Ninth street, Cincinnati.
Oklahoma.....	MRS. ADELIA HOLCOMB, Enid.
Oregon.....	A. W. ANTHONY (Pres't), 900 Thurman street, Portland.
Pennsylvania.....	MRS. EDWARD ROBINS, 114 South Twenty-first street, Philadelphia.
Rhode Island.....	MRS. H. T. GRANT, 187 Bowen street, Providence.
South Carolina.....	MISS S. A. SMYTH, Legare street, Charleston.
Tennessee.....	MRS. C. C. CONNER, Ripley.
Texas.....	MISS HOPE TERHUNE, La Porte.
Vermont.....	MRS. FLETCHER K. BARROWS, Brattleboro.
Virginia.....	MR. E. C. HOUGH, Falls Church.
Wisconsin.....	MRS. REUBEN G. THWAITES, 260 Langdon street, Madison.
Wyoming.....	MRS. CORDELIA CHIVINGTON, Cheyenne.

Conscience and the Game Laws

It is all very well, the passing of adequate laws for the protection of game-birds, but the conscience of the average sportsman is such a complex organization that its cogs invariably slip or fail to move altogether when called upon to recognize certain sub-clauses of the very laws that he has labored to have passed.

The man who would rightly consider it a heinous crime against sport to shoot a bird

the evening before the day of open season, to snare game, or even in season to shoot the summer-hatched flocks of immature or 'bumblebee' quail, will not for a moment hesitate to ship game from a state that prohibits the practice, or carry game from the southern states that have a prolonged season into states where the season has long since closed.

The fact that he is oftentimes violating federal as well as state law moves him not at all. Into his trunk, steadied by his

clothing, go the birds; into his grip, a few more; large-sized cigar boxes are used for conveniently expressing half a dozen quail to a friend, or perhaps a starch, or even larger grocery box may be utilized. This accusation is not based upon speculation, for I know half a dozen sportsmen who dispose of the game they kill in this way quite as a matter of course, as if they considered the non-transportation clause as applying only to the market hunter who sells his game.

They sell game, they, the thoroughbred sportsmen? Never! they merely use it as courtesy coin to pay off little social debts to their friends, and especially their friends' wives.

And these wives?—bigoted Audubonites some of them, too, who even have ethical qualms about using geese-feather pillows—do they decline to receive these smuggled birds and become parties of the second part by eating them? Not a bit of it. The worse of the whole matter is that the law cannot cope with the breach of itself at all unless game custom-houses could be established at all state lines, which is of course an impossibility. Yet in this, as in many other differences between the law and the lady, no greater aid can be had in the working out of justice than that which comes from the lady herself. The woman who teaches her children humanity and to keep their fingers out of nests, and banishes forbidden plumes from her head-gear, must go a step further and refuse to accept as a gift game either out of season or shipped against the law, just as she would refuse to buy smuggled goods, even if it robs her table of one of the attractions that as a good housewife she greatly covets.—M. O. W.

National Committee Notes

BY THE CHAIRMAN

The matter of incorporation progresses slowly, but surely. The charter, constitution and by-laws are being prepared very carefully, necessarily by means of correspondence, which entails delay; however, it is better to be a little slow in the beginning than to make haste and mistakes.

It has been decided to substitute the word

"Association" for "Committee" in our title, because the former word more clearly expresses the relation of the central body to the several state societies, the American Ornithologists' Union and the supporting public. In addition, our attorney states that the substitution will simplify the act of incorporation, as it will render unnecessary considerable advertising which would have to be done in case the present title were continued.

The Chairman dislikes to be compelled to revert to the subject of money so often, but a deficit of over \$300 at the present writing, for which he is personally responsible, causes considerable worry and uneasiness. Certainly among the readers of BIRD-LORE there should be some who are willing to share this burden.

It is gratifying to learn that the Republic of Mexico is awakening to the value of bird life to agriculture. Her Commission of Agriculture is distributing literature, forming ornithological leagues and revising state laws for bird protection. Dr. A. Meraz, of the Commission, has requested the privilege of using the electros of the illustrations of our Educational Leaflets in its publications. In response to this request, a complete set of electros have been shipped to him. As so many of our birds either winter in or pass through Mexico during the migration seasons, it is very pleasant to be able to thus establish international relations for the protection of birds. It is hoped that such relations may some day be established with the Central and South American countries, in order that plume-hunting may be stopped there, thus cutting off one of the sources of supply for the London feather trade. This is the only method by which the beautiful Humming-birds and the few remaining American White Herons can be saved.

In the May-June number of BIRD-LORE mention was made that the Navy Department, at the request of the Committee, had directed that the birds on Midway Island, a Pacific cable station, should be protected. That this order is being carried out the following newspaper item proves: "A cablegram has been received from Lieut. C. S.

Owen, commanding the detachment of marines at Midway Island, the landing point of the Pacific cable, stating that the employees of the cable company have threatened to leave the island by the next steamer if the order of the department prohibiting them from carrying firearms and shooting the beautiful birds of the island is enforced. The department's reply to this cablegram was that the order was to be rigidly enforced, as the officials here are determined to put a stop to the carnage of these birds of plumage."

California is still making great strides, new local branches being rapidly organized. Secretary Way writes: "I believe we will get 1,000 junior members in Pasadena. The letters I am getting from children, and the interest they are showing in this work, is decidedly encouraging." Mr. Way conducts a department in the 'Pacific Fruit World,' a paper of wide circulation, through which he has an opportunity to plead the cause of bird protection in a very forcible manner.

In addition to the above, the Society is making a determined effort to preserve the Mourning Dove. Large numbers of Educational Leaflets No. 2 are being circulated, also a special leaflet entitled 'Save the Nesting Doves' has been prepared by the California Society and is being used with good results. This aggressive fight to protect this beautiful and useful bird is strengthening the California Audubon Society and is bringing it prominently before the public. An active, aggressive and progressive society is like a two-edged sword, cuts both ways,—helps itself and weakens the opposition. Such work is commended to some of the other societies who seem somewhat lethargic.

Some large colonies of sea-birds breeding on the Oregon coast have been brought to the attention of the Committee, also certain acts of vandalism committed there. Steps have been taken to prevent such occurrences in the future, through the coöperation of Mr. J. W. Baker, State Game Warden. Details of the above will be given in the annual report, and it is hoped that it may be accompanied by some interesting photographs.

The North Dakota Audubon Society has commenced a very active campaign for state work. It has in progress an extremely important movement, the details of the successful completion of which may be given in the near future, certainly in the annual report. It is of such a character that publicity at the present time might delay or defeat the project.

In North Carolina the citizens will soon learn that the Audubon Society is a force, for it has, since its organization, conducted fifty successful prosecutions for violation of the bird- and game-laws.

One thousand warning notices, containing the new state bird- and game-laws and also the provisions of the Lacey Act (Federal Law), have been sent to Louisiana for distribution. Frank M. Miller, President of the Louisiana Audubon Society, reports that during the past season five thousand eggs were destroyed at one time, at a breeding-ground on the Gulf Coast. This was done in order that fresh eggs could be collected subsequently. Mr. Miller, during the coming winter, will have a complete survey of the Louisiana coast made in order to locate all of the breeding-grounds, so that complete protection by wardens may be given in 1905.

The Committee has long felt that inasmuch as all the warning notices prepared, and sent for distribution to the several state Audubon Societies, contained, in addition to the State Law, the Federal Law or Lacey Act, there should be no objection to having them displayed prominently in post-offices. Application for such permission was made to the Post-office Department, and the same has been granted. A facsimile of the order has been prepared and will be furnished to any of the Audubon Societies that desire to place notices in the post-offices of their state, provided the said warning notice is in the form detailed above.

Two thousand five hundred copies of an 'Open Letter to Clergymen' have been sent to the religious and secular press of the country, and it is being published widely. The letter refers mainly to the use of the aigrette and the rights of birds as citizens. In this connection a pleasing incident has

come to the attention of the Committee. In a parish leaflet issued by a Massachusetts church is the following quotation from Educational Leaflet No. 7: "The wearing of aigrettes or plumes from the White Heron has now become a question of ethics, which every woman must decide for herself. It matters not a whit where the plume comes from,—the fact remains that the woman who wears one is party to a cruel wrong, and the plume, itself, becomes a badge of inhumanity." Will not the clergymen of the country follow this excellent lead? Certainly human beings will be held responsible for all acts of cruelty to even the most humble of God's creatures.—W. D.

The Illinois Society

As a foreword to this report it is perhaps best to state that it covers the time between the annual meeting of 1903—March 28—and that of 1904—April 23—and thus, in a few items, overlaps the last report published in BIRD-LORE.

With the courtesy due to those rare creatures that 'never lie,' our figures must speak first. Our membership has been increased by the addition of 60 adult and 1,573 junior members, making the total number joining since our organization April 1, 1897, 1,035 adults and 15,059 juniors, a total of 16,094. We have sent out 7,060 leaflets, nearly all being the publications of the National Committee, Mr. Dutcher's report for the A. O. U. Bird Protection Committee and the National Committee leaflets being sent to all our active and associate members. The secretary has received about 500 letters representing nearly half of our 102 counties, and extending from Galena, in the extreme northwest, to Massac county, in the extreme south of the state. Our receipts from members' dues, etc., amounted to \$232.76, and our expenses were \$225.61. As we began last year with a balance of \$57.16, we were able to begin this year with one of \$64.31, a sum that must rapidly decrease in response to the constantly increasing demands upon us.

As to increase these demands, which represent increase of interest, is our reason for being, we must rejoice in this evidence

of success, while we long for the means to meet the demands more generously. The Junior Department, under the leadership of Mrs. W. M. Scudder, is developing in many directions, and is, of course, the most encouraging feature of our work. The teachers of our schools are, in many cases, doing most satisfactory work, to which the children are responding bravely.

Our first legal Bird Day, under the law passed in 1903, was kept this spring, and, through the kindness of the State Superintendent of Schools, Mr. Alfred Bayliss, the Audubon Society, through its secretary was allowed space to present the cause of the birds to the teachers in the excellent Arbor and Bird Day Annual issued by the state.

The usual public meetings have been held in the Chicago Academy of Sciences. At the one in November an interesting illustrated address on the 'Water Birds in the Chicago District,' was given by Mr. Gerard Allen Abbott, while the annual meeting in April gave us the great pleasure of listening to Mrs. Irene Grosvenor Wheelock's charming talk on the 'Birds of the Farallones.'

The illustrated lecture belonging to the society has been on the road almost constantly since February, and is one of our best workers. Our two libraries are slowly winning their way, though far less popular than their more attractive co-worker. The work done by our small band of faithful secretaries—may their tribe increase!—deserves special praise. Lacon, Galena, Henry, Princeton, Quincy, Belvidere, Moline, Ravenswood, Streator, Bristol, all should have honorable mention. At the annual meeting it was decided to form a committee on new members, this committee to be made up of persons not on the Board of Directors. The good results of this action are already proving its wisdom.

That we need for the future more workers, more help, is a twice- and thrice-told tale, but that we do need them is also the proof that the work of the past years has at least laid the foundations for the 'bird house' we are trying to build for the little feathered workmen of our state.

MARY DRUMMOND, *Secretary.*

NATIONAL COMMITTEE OF AUDUBON SOCIETIES

EDUCATIONAL LEAFLET NO. 11



THE SCREECH OWL

Order — *Raptores*

Family — *Bubonidae*

Genus — *Megascops*

Species — *Megascops asio*.

The Screech Owl

By WILLIAM DUTCHER

Chairman National Committee of Audubon Societies

DESCRIPTION

Adult Male and Female.—The Screech Owls are dichromatic, i. e., having or producing two colors. Red phase: General aspect above bright rufous, generously streaked with shaft-lines of black; in some individuals the shaft-lines on the head are replaced by black spots. The scapular feathers show considerable white; there is also more or less white in some individuals above the eyes. Underneath: base color is white, overlaid with rufous, generally in bars; there is also considerable black in quite a pronounced half-collar; heavy black shaft-lines on breast, smaller ones and feather tips on flanks and belly. The legs and feet are feathered nearly to the end of the toes. Bill is horn color, almost hidden by feathers and bristles. Eyes are very large, bright yellow in color. Gray phase: General appearance above brownish gray; the markings of black and white are almost identical with those on individuals in the red phase. Underneath: gray and white profusely marked with black shaft-lines and narrow black or brown bars; wings and tail in both color phases are barred; ear tufts are erectile and are about one inch long; entire plumage is very soft and fluffy in texture; there is no seasonal change in color of plumage.

Young.—Entire plumage is regularly barred with gray or white; shaft-lines are entirely absent.

Size.—Varies from 7.50 to 10 inches in length from tip of bill to end of tail, the female being slightly the larger of the sexes.

Nest.—Is nearly always in a natural cavity in a tree or in a deserted Woodpecker's hole, although occasionally nests may be found in boxes nailed to trees, or in dark corners of barns, out-buildings, etc.

Eggs.—From four to five in a set; pure white in color, and somewhat glossy.

Distribution.—The Screech Owl (*Megascops asio*). A. O. U. Check List No. 373, breeds wherever it is found: its habitat extends throughout temperate North America, east of the 100th meridian, between the parallels of 32 and 49 degrees of north latitude. Several subspecies and closely allied species have been described, which extends the range of the Megascops Owls over nearly all of the balance of western North America, from Sitka, Alaska, on the north, to Guatemala on the south. The differences between these geographical races and allied species are very slight, being mostly variations in size or color. A difference of one-half an inch in the measurement of a wing, or a slightly grayer, or brighter rufous tinge on under side or upper parts, or slightly heavier shaft lines or not quite so many of them, are sufficient warrant to describe and name a new race. These are immaterial facts for the farmer, teacher or child; it is enough for them to know that all of these numerous sub-divisions are, after all, Screech Owls.

In humid localities Owls have a rather darker plumage, while the reverse obtains in arid places. The habits of all these Owls are the same, every member of the family being of the very greatest economic value.

The farmer or student when studying the Screech Owls must always bear in mind the two phases of color—red and gray. A bird of one color may be mated with a bird of another color, and their young may all be of one color, either red or gray, or the parents may be of one color and the young of mixed colors. However, no matter what the phase of color is, no person can mistake a Screech Owl for any other species of Owl. The only other species that might possibly be confounded with them is the Sawwhet Owl, which lacks ear-tufts, is brown, and does not have black shaft-lines. The Pigmy and Elf Owls, of the West, are very much smaller than the smallest of the Screech Owls, being not larger than a Thrush. A family of birds of such wide distribution naturally has several common names. The Screech Owl is often known as the Red Owl or Mottled Owl, probably derived from its plumage, or Shivering Owl, undoubtedly derived from its notes, and Little Horned Owl, from its ear-tufts, and Cat Owl, evidently from the shape of the head.

In the East, Screech Owls are very fond of living in apple orchards, especially if the trees have been neglected and are decaying, thus furnishing holes in which the Owls may breed or hide. The farmer who is so fortunate as to have a pair or more of Screech Owls attach themselves to his orchard, should consider himself especially favored, for the good that they will do him by keeping in subjection the mice pest is beyond calculation. A very intelligent farmer living in Seneca county, New York, informed the writer that mice and rabbits, principally the former, had in one winter (1899-1900) killed every tree in a five-acre peach orchard. The trees were girdled a few inches from the ground by these

rodents. The value of his 800 bearing trees was not less than \$2,000. In this case would it not have been more economical for the owner to have encouraged Owls and other so-called birds of prey, that live largely on mice and rabbits, to remain on his premises, even though a chicken might have to be sacrificed occasionally? It is probably a fact that Screech Owls remain mated during life, and, as they are non-migratory, if they once become attached to a locality, they are apt to remain there, unless they are harassed and driven away or their home tree is destroyed, and they are compelled to seek another, in which case they do not move any great distance.

For this reason they are doubly of value to the agriculturist, as they are his helpers during the entire year. Their prey, the mice, are yearly tenants, and the farmer who is wise will give the Screech Owl on his acres a perpetual free lease.

Another feature in the life-history of the Screech Owl, that makes it doubly valuable, is that it is nocturnal in its habits and hunts for food at night when all the other birds are at rest. It thus complements the day work of the rodent-eating Hawks,—Nature in her wisdom thus providing a continuous check on the four-footed vermin of the ground.

Although the Screech Owls are nocturnal by choice, yet they have no difficulty in seeing in the daytime, although they then seem stupid and are not at all alert and wide-awake as they are after sundown.

During the daytime they hide in holes in trees, or in some secluded place in the foliage, to escape observation. Should they be discovered they are apt to be mobbed by other birds, especially Jays. This fact must have been well known to the ancients, for Aristotle recorded it over three centuries before the Christian Era, in the following words: "The Noctuae, Cicumae and the rest, which cannot see by day, obtain their food by seeking it at night: and yet they do not do this all night long, only at eventide and dawn. They hunt, moreover, mice, lizards and scorpions, and small beasts of the like kind. All other birds flock round the Noctua, or, as men say, 'admire,' and flying at it buffet it. Wherefore this being its nature, fowlers catch with it many and different kinds of little birds."

The Owls are supposed by many superstitious people to be birds of bad omen; this probably arises in the case of the Screech Owl from its weird, tremulous, shivering, wailing, whistling note. To the writer there is a singular and fascinating attraction in its notes, which are heard in the dusk of early nightfall, especially when its shadowy form is noiselessly flitting by like a huge night-flying moth, which can only be seen as it crosses a background of fast-fading western light, the last faint beams of a sun far down below the horizon.

The homes of Owls may often be discovered from the pellets of undigested food, bones, fur, etc., disgorged by the birds.

While the life-history of the Screech Owl family is interesting, yet their economic status is the important fact which needs wide publicity. All scientific writers and students of the food habits of this species of Owl join in pronouncing it to be one of the most beneficial and least harmful of all birds. In addition to the great number of rodents it destroys, it also eats enormous quantities of noxious insects. In the First Annual Report of the United States Entomological Commission (1877) it is stated: "The injury by the Rocky Mountain locust to the agriculture, and, as a consequence, to the general welfare of the States and Territories west of the Mississippi, has been so great during the years 1873-6 as to create a very general feeling among the people that steps should be taken by Congress looking to a mitigation of an evil which had assumed national importance." On p. 119 of the report it substantiates the above statement by actual figures, showing that in the four corn-growing states of Kansas, Nebraska, Iowa and Missouri, in 1874, the loss by locusts was 142,942,800 bushels, with a money value, at 28 cents per bushel, of \$40,000,000. An examination of the stomach contents of eight Screech Owls (p. 42, appendix II) taken at that time in Nebraska disclosed the fact that they had eaten just

prior to their capture, 219 locusts and 247 other insects, besides two mice. One of the Owls had eaten a small bird, but it had also eaten 32 locusts and 8 other insects.

Mr. George C. Jones, of Fairfield County, Connecticut, says: "I think the smaller species of Owls feed upon the cutworm to some extent. I have found cutworms in the stomach of the common Screech Owl. The fact that both the cutworms and the Owls are nocturnal leads me to believe that the Owls, of all the birds, are the most efficient exterminators of this formidable pest and should on this account receive protection. The farmers here are large growers of tobacco, and the damage done by the cutworm to the young plants and the labor of resetting forced upon the growers is almost incalculable. I believe that if our native Owls were as plenty as some other species of birds the ravages of this destructive worm would be much less than at present."

Dr. A. K. Fisher, in his report on the Screech Owl (Bull. No. 3, Div. of Ornithology, U. S. Dept. Agl.) says: "Their economic relations are of the greatest importance, particularly on account of the abundance of the species in many of the farming districts, and whoever destroys them through ignorance or prejudice should be severely condemned."

In his summary of the results of the examination of the stomach contents of 255 Screech Owls, he gives the following valuable facts: 1 contained poultry; 38, other birds; however, many of these were English Sparrows, the well-known introduced pest; 91 had been eating mice; 11, other mammals; 100, insects; 32 had been eating an assorted diet of lizards, fish, spiders, crawfish, scorpions, etc., and 43 stomachs were empty.

This brief outline of the life-history and economic value of the Screech Owls is presented to the farmers, fruit-growers and school children of the country, with the hope that it will create in them a desire to study and protect this very valuable and interesting class of birds.

Study Points for Teachers and Students

Trace distribution of the Screech Owls on the map. Relate some of the life-history of the Screech Owls from your own observations. Describe breeding places you have found. If in a tree, what kind? What is the botanical name of the tree? Give your own reasons why Screech Owls should be protected. Who was Aristotle? Tell something interesting about him.

For additional valuable information regarding the Screech Owls, consult the reference books named in leaflet No. 8, also "First Annual Report of the United States Entomological Commission Relating to the Rocky Mountain Locust," Government Printing Office, Washington, D. C.



1. HERMIT WARBLER, MALE.

2. HERMIT WARBLER, FEMALE.

3. HERMIT WARBLER, YOUNG.

4. TOWNSEND'S WARBLER, MALE.

5. TOWNSEND'S WARBLER, FEMALE.

ONE-HALF NATURAL SIZE.

Bird = Lore

A BI-MONTHLY MAGAZINE

DEVOTED TO THE STUDY AND PROTECTION OF BIRDS

OFFICIAL ORGAN OF THE AUDUBON SOCIETIES

Vol. VI

NOVEMBER — DECEMBER, 1904

No. 6

How to Study a Bird

By ERNEST THOMPSON SETON

A DEFINITE plan is so helpful, that long ago I devised a formal scheme of bird study. This was published in 1887, and again, in 1899, in 'The Osprey,' but it has been so much modified since that I venture to bring it again to the notice of bird students. I have always felt that the "real history of a bird is its life history. The deepest interest attaches to everything that reveals the little mind, however feebly it may be developed, which lies behind the feathers." So says the celebrated English ornithologist, Seebohm, and I am very sure that there is no lack of bird-lovers to re-echo the sentiment. The first two questions about a new bird—"What do you call it?" and "Where did you get it?"—are of very great importance, and of such a nature that they insist on first notice; but, having settled them, as we now have, sufficiently for the purposes of the ordinary observer in eastern America, we are brought face to face with what is, after all, of chief interest, the great question of the "little mind."

I am satisfied that a harvest of profit and pleasure awaits any one who will try to fill out this schedule for any one bird; taking, preferably, the one he knows best and adding to his own information all that he can gather from outside sources.

In the present schedule I have purposely omitted the anatomical studies that were prominent in the original. This is not done because I think less of anatomical studies and of collectors' work than formerly. I still believe that one important fact is worth many small birds, but the time has gone by when adequate good can result from ordinary collecting in well-known regions. The experts of our museums are the only ones who should be allowed to collect bird-skins today. It is safe to say they will not abuse the privilege. Knowing the value of birds, as they do, better than any other class of men, they are not likely to take the life of a Sparrow, even, without a very sufficient justification.

The headings and questions here given are limited by the knowledge

and theories of the writer; but it is nearly certain that any one faithfully following their lead will stumble on clues which, properly followed, will guide him to new ideas and unexpected light. Such has ever been the experience of those who have blindly but earnestly groped after the truth.

THE STUDY OUTLINE

1. *Spring Migration*.—Give earliest appearance, etc.; state whether in flocks or singly, the species by itself or associated with congeners or wholly different species, males in advance or both sexes together, by day or by night; crossing a lake or skirting its shores; flying high or low. Record in full the weather at the time of observation, also date, locality, moon, etc. Does the bird hide or return southward during the late spring storms?

2. *Habitat*.—Is it found in dry uplands, dense forests or marshes, or does it manifest a preference for the vicinity of water, or especially of running water? Can any reason be assigned for its choice of locality?

3. *Voice of the Male*.—Song and variations of the same; height from ground when singing; time of day; alarm notes, song periods, song flight, song by night; influence of the weather.

4. *Voice of the Female*.—Song, if any, and full particulars, as above.

5. *Voice of the Young*.—Has the young in first plumage a song characteristic of that period, as have some other species, and does this song resemble that of others of the genus in corresponding plumage?

6. *Care of Young*.—What devices do the parents use to protect the young?

7. *Habits*.—What are its peculiar tricks of attitude, motion and expression? Does it hop or run? Is its flight ever undulatory, like that of many of its relatives? Is it nocturnal or aquatic at all? Does it ever wade for food, swim or dive to escape its enemies? Does it indulge in any sort of play, especially in a social way? Does it enter holes or burrows? How is it affected by loud sounds?

8. *Coöperation*.—Do two or more individuals, mates or otherwise, ever unite to do something beyond the strength of one, as catch prey, break down stalks, move nesting material, resist an intruder?

9. *Mimicry*.—Do they mimic songs of other birds or other sounds? Do they ever imitate birds of prey, to drive away intruders?

10. *Signals*.—Can they distinguish the danger signals of other birds? What signals do they use besides vocal sounds? Do they tap with the beaks, wings or feet, or slap the water as a signal? Have they special night signals? How do they communicate with each other generally, by sounds or signs? Have they recognition signals?

11. *Senses*.—Is their power of smell noticeable? Do they rely on their eyes most?

12. *Tools*.—Are they ever known to use a tool, that is, a stub, a stone or other foreign object, to help the beak or claws?

13. *Success in Life*.—Can it hold out against the English Sparrow? If so, what is its peculiar strength? Is the species increasing or not with civilization? How does it adapt itself to changing conditions, such as deforesting, increasing human population?

14. *Summer Roosts*.—Does it form summer roosts? If so, does it use these in common with other species?

15. *Constancy*.—Does the same pair return each year to the same locality? This can be settled only by marking them in some way.

16. *Food*.—Does it feed on the wing, under water, on tree-tops, by night? Does it regurgitate pellets? Does it distinguish poisonous plants and insects? Does it teach its young to do so? Does it feed the young by regurgitation? Does its food change with time of life? Does it eat food that would poison another species? Do certain foods influence the bird's color? Does it store up food? Does it treat special foods in special ways, thus, put very hard seeds to soak, or remove the stings of wasps, or the wings of moths? Does it take food with its claws?

17. *Plumage*.—Particularize each specimen in form, color and measurement, noting difference of sex, season, age, moult and locality. Thus, do heavily marked specimens characterize a certain locality? and so on. Do young or old moult first? Do sick or healthy moult first?

18. *Mating*.—Note fully any courtship observed, with maneuvers of both birds or competitions with rivals; is it ever polygamous or polyandrous? Do the same birds remain paired throughout the season, or for more than one season?

19. *Nesting*.—Which of the pair selects the nesting site? Give full particulars of construction, materials, proximity to the ground and to the water, of each nest; preserving, photographing or sketching the same, and observing whether covered over or approached by a covered way. Does it shape the nest with bill, claws or breast? Does it line the nest with its own feathers? Does it show preference for any kind of lining or building material? Does it ever evidently go a long way to get certain material while others are close at hand? Is the same nest ever used twice? How does it clean the nest while in use? Does it use mud for building? Does it steal nesting material from other birds?

20. *Eggs*.—Give details of laying, time between each oviposition, variation of the eggs in size and color, stating whether those first laid are large or more heavily marked than those laid later; are the eggs turned daily, and, if so, by which bird? Is the first clutch of eggs more numerous than others of that season? Are young birds more prolific than older ones?

21. *Broods*.—Number per season; average of each? Are later broods less? How long is each cared for by the parents? Is the female first to

desert her charge? Do the first-hatched little ones of the brood help their younger brothers in any way?

22. *Cowbird Parasitism*.—Is the bird ever imposed on by the Cowbird? Particularize each case observed, or does any other species ever lay in this bird's nest? Is the species ever guilty of parasitism of this kind, or does it ever act dishonestly in getting a living?

23. *Crime*.—Have the old ones been known to kill the young by accident or for reason? Or to kill congeners, or to make serious blunders or to suicide, and, if so, how? Or to kill the young of other birds?

24. *Young*.—Give in full their habits, food, plumage, comparing them with their parents and with their near congeners. Are they ever fed from the crop of the parents? How old are they when first fed? How old when eyes open? Is there any evidence of a late summer northward migration among them?

25. *Relatives*.—What are their nearest congeners? Compare them in range, local habitat, changes of plumage, etc.

26. *Competitors*.—With what species do they most actively come into competition in the struggle for life, and how do they try to overcome them?

27. *Natural Enemies*.—Enumerate predatory birds, mammals, reptiles, insects, etc. Also meteorological phenomena, and means employed to combat, elude or withstand in each case.

28. *Friends*.—Have you observed any peculiar friendships formed, as with birds of other kinds, beasts or man?

29. *Disease*.—What are the diseases the species is subject to? What disease predominates? Since all the individuals are killed in some way, it being improbable that any die of old age, what cause of death is the chief one,—weather, disease or birds of prey? What means do they take to keep themselves clean and get rid of insect parasites?

30. *Age*.—What age does the species attain? What is the proof of this?

31. *Full Migration*.—Particularize as in spring migration, giving latest appearance. Does it arrive in the spring singly and go in the fall in flocks? Is it ever a winter resident here? In the fall, when leaving us, does it obviously await the full moon, as do some species, or does it await the arrival of other species whose train it follows?

A LESSON

"Thank! Thank!" Said Nuthatch, overhead.

I looked around with opened eyes

At gorgeous earth and glowing skies.

"Thank! Thank! indeed," I softly said.

—ELIZABETH DANA.

Some Familiar Florida Birds

By MRS. F. W. ROE

With photographs by the author

AT our winter home in Florida, on the Halifax river, food for both hard- and soft-billed birds is kept the year round on trees, the ground, and on one veranda, where water for their bathing is kept also; and in this way we have gradually attracted many varieties, and have been able to study them while only a few feet from us. Close to one window of the cottage is a large live-oak, where Cardinals, Mocking-birds, Woodpeckers, Blue Jays and numerous Warblers, and other species, can be seen at almost any hour of the day; and it is on this tree, also, that



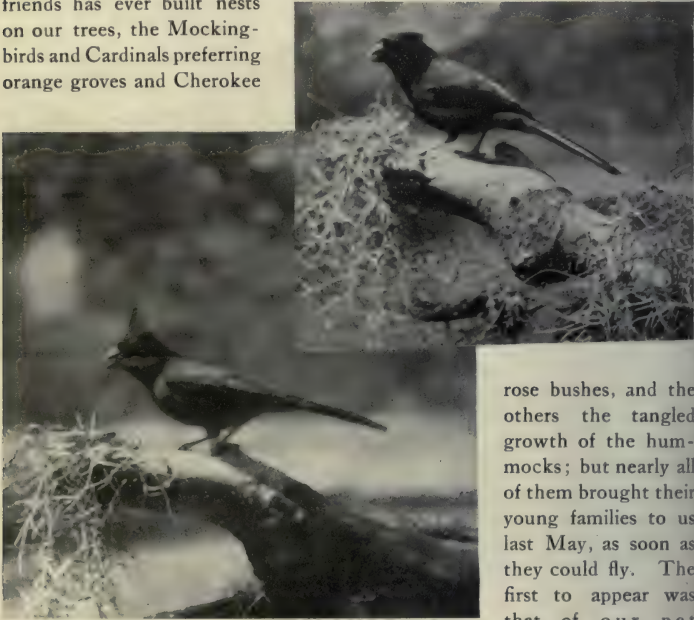
FLORIDA BLUE JAYS

a Brown Thrasher has made his nightly home during the past two winters. As the wife of an officer of the Regular Army, I have had an exceptional opportunity for the cultivation of the "seeing eye" in many states and territories, and I have found the birds of Florida not only more beautiful, but far more attractive and lovable, than those to be seen north or west.

The young Mocking-bird rarely sings after the first cold winds in the fall; therefore, very few northerners know how beautiful the natural song of this bird is, or how perfect the technique, before he has learned to imitate other birds, and has turned his own exquisite *aria* into a rag-time pot-pourri of the notes of his neighbors. And only a favored few of those who remain late in the season hear the delightful song of the female Florida

Cardinal, as this dainty little lady condescends to sing only in the spring, and not then, except when alone and her surroundings perfectly quiet. Her song is very low and sweet, but in exact imitation of the far-reaching flute-like notes of her handsome mate. Then, there is that little clown, the Florida Blue Jay, with his merry *Kris-krinkle*; how many bird students have been so fortunate as to hear the charming song this little fellow sometimes warbles, in between naps, on warm drowsy afternoons in spring?

None of these feathered friends has ever built nests on our trees, the Mocking-birds and Cardinals preferring orange groves and Cherokee



FLORIDA CARDINALS

Upper figure, male; lower figure, female

rose bushes, and the others the tangled growth of the hummocks; but nearly all of them brought their young families to us last May, as soon as they could fly. The first to appear was that of our pet Mocking-birds, consisting of the two

old birds and four young. The father of this family has made his home, during the past three winters, on an oak that is very near my bedroom windows, leaving us for only a short time in the spring, during the nesting season. Many a skirmish have I witnessed between him and the Blue Jays, when the latter have gone to his tree on chilly winter mornings, to catch the first warm rays of the rising sun; and I have noticed that in these battles, the Mocking-bird was invariably victorious, often driving away as many as four Blue Jays at one time. Like all Mocking-birds, he

is rather pugnacious, and shows a decided dislike to the migrants, particularly the Robins, not one of which will he permit to remain in the yard. He is a remarkably fine singer, and imitates almost any bird that sings or calls, in that part of the state.

Next came several families of Florida Cardinal Grosbeaks, the young birds distinguishable by their very dark bills, totally unlike the pink bills of the old birds, and which gave them a most comical appearance. The young males had at first only a few red feathers in cap and breast, to mark them from their olive sisters. The Cardinals feed on the ground quite as often as on the trees, always picking out the wheat from the food, consisting mostly of grain and oat-flakes, which I scatter around for Quail, Towhees and Ground Doves. We have counted fifteen of these little beauties on our lawn in one flock, each one busily engaged in cracking grains of wheat.

There were three families of Florida Blue Jays with us at one time, and the plaintive cries of the young birds could be heard from all directions. We were greatly surprised at the length of time—over one week—these fluffy little creatures remained quietly on their own special tree without attempting to do more than hop from branch to branch, and also at the perfectly noiseless and unobtrusive flitting about of the old birds. The Florida Blue Jay is smaller than the northern, and has less white on wing coverts and tail. He is more inclined to be sociable, also.

At one end of our cottage is a large, outside brick chimney that extends up through a projecting roof, and on the chimney, under the roof, two Flickers have roosted, or rather *hung*, every night during the past two winters, a bird on each side, leaving us only in the spring, when they, too, were attending to household affairs. They showed their appreciation of our hospitality, however, by bringing us four beautiful young Flickers very early one May morning, and which were evidently just from the nest. When I saw them first, they were resting close together on a pile of coquina rock just at the edge of the river, a queer place it seemed, too, for these shy 'high-hole' birds of the woods. Their cry of three notes was most peculiar, and unmistakable after having once been heard. One little bird would set up a shrill pipe, and wag his head from side to side, when instantly the other would do likewise—then there would be a silence for a few seconds, then a repetition of the piping and wagging. I tried to steal out, hoping to get a snap-shot picture of them, but they were too wary, and flew away.

Decidedly the most fascinating of all the young birds which came to us was a male Red-bellied Woodpecker, the parents of which can be seen in accompanying photographs. It was exceedingly amusing to watch the bright eyes of this dear little fellow, as he closely followed his father from tree to tree, and to see how very conscious he was of his own importance.

When he first came, the top of his head was nearly white, which made him look bald by the side of his red-headed parent, but after a day or so the bright scarlet feathers began to appear, and looked like drops of blood on the white. As soon as he could provide for himself, the father ceased to notice him, and began to show around another young one, a timid little female. During all this time, the mother was not seen once, and we concluded that she was looking after other young members of the family.

The Brown Thrasher came regularly for his supper just before dark, and his threatening scold could be heard some time before he would appear



MALE RED-BELLIED WOODPECKER

at his favorite feeding-place. I have often seen him on the ground in between some orange trees in our yard, 'thrashing' the sand from side to side with his long bill, until his head and back would be covered with dust. Many an hour did I wait before I could obtain even a snap-shot of this most tantalizing bird, and then, at the last, how vexatious it was to have him hide his lovely long tail behind the moss, as one can see by the photograph. In my estimation, Chapman does not do justice to the glorious song of this bird. Its notes are so varied, so full of volume, the long intervening pauses giving an expression of great dignity. In the early spring it sings the same notes very low, making a melody that is inexpressibly sweet, but which can be heard only when very near them.

Dozens of other and smaller birds come to us, some daily, others only occasionally, the daintiest of all, perhaps, being the little Painted Bunting,

in his gorgeous coat of red, blue, lemon and black. A pair of Quail made us almost daily visits for several winters, and frequently sat upon some rustic chairs which adorned our lawn. This close environment of these exceedingly shy birds made known to us several characteristics of the species which are not, I think, generally known. One day, the cock stalked inquiringly into the grounds, and soon came upon the food which I had just scattered about. At once he began to pick it up with great gusto,



FEMALE RED-BELLIED WOODPECKER

when suddenly he stopped and stood erect. Then, looking about him, he saw an oak tree which had been bent over by heavy winds at quite an acute angle. Running rapidly to the foot of this tree, he walked up the inclined trunk, until he was at least ten feet from the ground. There he stopped, and uttered a very peculiar whistle. It was not the *boh-white* with ascending accent, but the *white* alone, the accent sharply descending. A party of friends sat with me on one of the verandas, and, as we watched him, we wondered what would happen next. He repeated the call several times, when suddenly there was a whirr and a rustle of leaves, as his mate, on the wing, shot in through some oleander and guava bushes, and landed, with a bit of a run, right upon the scattered food, and at once began eating

rapidly. The cock, however, did not see her, and continued the call. Shortly wearying, he walked leisurely down the tree, with a most dejected air; and directed his course to the food, when suddenly he espied his feeding mate. He halted, stretched his neck to its uttermost length upwards, and gazed upon his greedy spouse as though he could not believe his eyes, and then, darting to her through the intervening grass, began feeding close to her side, with a most satisfied and affectionate demeanor. We had not previously known that these birds, when left to their own pretty mannerisms, and not unceasingly terrorized by the insatiable hunter, would sit and sun themselves on chairs near a veranda where numerous peoples at talking. Neither did we know that, after finding desirable and exceptional food, they would forgo their individual hunger, until they had called to them a less fortunate mate; and, above all, that they had a peculiar and little used whistle for this summons, and that they would seek an altitude to make it the more effective. Some of the observers of this little love scene between the Quail had hunted them, with dog and gun, many seasons, in many places; but I am positive that, in the future, this sport, if indulged in by them at all, will give far less pleasure, because of their having been with us in Florida that spring afternoon on the banks of the Halifax.



BROWN THRASHER

Bird-Life of a Swiss City

By REV. WENDELL PRIME

AS BIRD-LORE's work relates to the protection, as well as the study of birds, I am encouraged to send you a few lines in regard to the way in which the birds fare in Zürich, the largest, and in some respects the most important, city in Switzerland. Since the first of the year I have occupied a room on the first floor of a house in one of the most frequented residence quarters of the city. Observing the provision made for the birds by many of my neighbors, I fastened to the railing of the veranda, upon which a glass door opens, a small, open bird-house. In this I placed a dish with bread-crumbs and another with water. I also fastened to one of the veranda posts a "food-giver," which is a stick about one foot long from which are suspended, by short cords, a wooden cup containing bird-seed, a net-work box containing walnut-kernels, and the half-shell of a walnut containing suet. Immediately my restaurant attracted numerous customers, especially Sparrows, which are not so pugnacious as their American relatives. They did not prevent numbers of Chaffinches or Beechfinks (*Fringilla cœlebs*) from having their daily share of the spoils. These beautiful birds, by their color and song, are a continual joy in the streets and parks and gardens. But the most important visitor at the bird-house, from the very beginning of the year, was the Blackbird or Amsel (*Turdus merula*), a black Thrush, about the size of our Robin and a much finer singer. His presence was respected by the smaller birds, but he was not intolerant. Though he occupied pretty much all the best part of the little house, the others were able to feed at the sides and corners. At the "food-giver," only a few feet distant, I had a totally different company. For many weeks it was patronized exclusively by the Meiser, the relatives of our Chickadees and Tits, of which half a dozen species are common in middle Europe. My visitors were the Kohlmeiser (*Parus major*), about the size of our Chickadees, but with much beauty of varied color. Alighting on the edge of the seed-cup, they clean it out to the very bottom. Alighting on the stick, with two or three twitches of the beak they pull up the net-work bag and, holding it with the feet on the stick, they hammer like Woodpeckers at the walnut-kernels. In the same way they reach the suspended shell with suet, but they use this only occasionally. In the latter part of March, the "food-giver" became the resort of another visitor, the Grünfink (*Fringilla chloris*). They had no difficulty in managing the seed-cup or the walnut-bag. Sometimes two pairs would be at work at the "food-giver" at the same time. They are the only birds, except Meiser, which have made any attempt to use it. All these five kinds of birds continued

their daily visits throughout the entire spring and summer. Beechfinks and Amsels were less frequent as the season advanced, and now rarely come to the veranda, though they are still numerous in the neighborhood.

Besides these, I have had a few occasional visitors, the most conspicuous being the Goldammer (*Emberiza citrinella*), his clothing being mainly yellow. His calls were during the winter, when I saw him often on the street feeding with the Sparrows. In May the city and vicinity were invaded by a vast army of Reed Buntings or Rohrammers (*Emberiza schoeniclus*). They fraternized with the Sparrows in making the bird-house as clean as an empty pantry. They made no attempt to use the "food-giver," which seems precisely adapted to their habit of swinging on swaying plants and branches. Sometimes, when I open the door in the early morning, I find the food untouched and a cat on or near the veranda. This, however, seldom happens, for the cats know I keep a supply of stones with which to pelt them at every opportunity.

Many other birds than these I have mentioned are characteristic of the city in their season. Appliances for the feeding and nesting of different kinds of birds are for sale in the shops. Children are taught to know and love the birds, as well as other natural objects. No legislation can do so much for the attraction and preservation of the birds as that love for them which makes the entire community interested in their welfare and happiness.



DOWNY WOODPECKER

Photographed from nature, by A. L. Princehorn

Young Flamingos .

By FRANK M. CHAPMAN

With photographs by the author



HEAD OF FLAMINGO ABOUT TWO WEEKS OLD,
SHOWING THE BEGINNING OF THE CURVE IN
THE MANDIBLE.

IN the current number of 'The Century' the writer has recounted, at greater length than was possible in BIRD-LORE, his studies in a Bahaman Flamingo colony made in June, 1904. For the circumstances attending this remarkable experience, the reader is referred to 'The Century'; here it is proposed to add certain details in regard to the habits and plumages of young Flamingos.

Although Flamingos are said to lay one or two eggs, my experience leads me to believe that they rarely, if ever, lay more than one; only two of the 1,500 to 2,000 occupied nests seen by me contained two eggs; all the others held one egg each, and it seems not improbable that the two eggs in one nest were laid by different birds, though, of course, it is possible that they may have represented twins.

There appears to be some variation in the time of the nesting season of Flamingos in the western Bahamas, but, under normal conditions, eggs are evidently laid the first week in May.

In the colony where my studies were made a few newly hatched young birds were seen by a negro scout on June 1. Two weeks later there were hundreds of them.

The period of incubation is not known, so far as I am aware, but it doubtless is not far from twenty-eight days. When the egg was pipped, the parent bird was seen turning it in the nest so that the opening would be uppermost.

When the young Flamingo emerges from the egg he appears to be covered with stringy white hairs, which, in drying, release downy plumules, and at the end of a few hours he is thickly covered with soft, dense down, usually grayish on the back and snowy white everywhere else. His legs and bill are flesh-pink, his eyes brown-black.

At this age the young Flamingo is nearly as active as a newly hatched Wild Duck. Chicks whose plumage was not yet dry and which, therefore, were not more than an hour or two old, crawled to the edge of the nest at my approach and dropped over its side in an ill-judged effort to escape.

This early development of the sense of fear in birds whose nesting-sites usually exempt them from the attack of marauding animals, was surprising and is not readily accounted for. So far as I observed, at this early age these Flamingos had two enemies—floods and Turkey Buzzards. The former, as I learned from two sad experiences, often bring disaster to the



YOUNG FLAMINGO RETURNING TO THE NEST

egg and the newly hatched chick ; the latter, in view of the comparative scarcity of food for scavenging birds in the Bahamas, find a Flamingo colony especially attractive, and, although I did not see them attack a young Flamingo, the chorus of protests which arose from the parent birds whenever a Buzzard sailed over the rookery was sufficient to arouse suspicions.

The first Flamingo rookery which I visited had been destroyed by rain three days before my arrival. The second colony discovered, and the one in which my studies were made, was also flooded, and at the time of my departure some nests were submerged and all were surrounded by water. Under these conditions eggs, of course, are ruined and very young chicks, like the one shown in the photograph, are doubtless drowned. Chicks over a day old can probably escape by swimming.

The young Flamingo remains in the nest three or four days. Should



THE GROWTH OF FLAMINGOS

The approximate ages of the birds shown in the accompanying plate are: (1) One day; (2) one month; (3) two months; (4) four months; (5) adult.

From mounted specimens in the American Museum of Natural History

he be forced to leave it during this period he evidently can find his way back. An accompanying photograph shows a chick climbing up into its nest with the aid of bill and wings. This nest was within ten feet of my blind, and on my approach the chick jumped out and ran away. After I had concealed myself the parent returned and, apparently in response to its calls, the young one appeared, and was soon snugly nestling beneath the maternal or paternal wing.

While in the nest, the chick, as described in 'The Century' article, is fed first by regurgitation, taking its food drop by drop from the tip of the



NEWLY HATCHED FLAMINGO IN A PARTLY FLOODED NEST, AN EXHAUSTED YOUNG BIRD, WHICH HAD LEFT THE NEST, AND A PIPPED EGG

parent's bill, and it also eats the shell of the egg from which it was hatched; this apparently is an invariable rule. Even after leaving the nest the chick is still fed for a time by the parent, which doubtless also induces it to pick up a living of its own;

It is an exceedingly interesting fact that the bill of the young Flamingo is straight and wholly unlike the singular, bent bill of the adult. Signs of a Roman nose, so to speak, first appear when the chick is about two weeks old, and at this time he begins to feed after the manner of adults. That is, the upper mandible is held almost parallel with the ground, and even pressed into the muddy bottoms on which the birds feed. It is then moved rapidly and sends a jet of water through the bill which washes away the sand or mud taken in with the food. Like the old bird, the young one now often

treads water or dances when feeding, to float its food off the bottom so that it can be more readily secured.

A curious habit of some young birds which I brought with me for purposes of study, consisted of an apparent attempt to feed one another. An accompanying photograph depicts two birds in the act, and renders further description unnecessary. At such times the birds uttered a rattling cluck which was heard on no other occasion.

The note of very young birds is a puppy-like barking. This is soon followed by a kind of squealing whistle, and this, in turn, by a chirruping crow which persists until the bird is at least two months old. The whistling note was the characteristic one at the time of which I write, and, under



YOUNG FLAMINGOS IN A FLOODED ROOKERY

proper conditions, the chorus of young birds could be plainly heard, day or night, at my tent a mile away. As the snowy natal down of the Flamingo chick increases in length it becomes much grayer, while the bill and feet change to lead-color. At the age of five or six weeks this down is pushed further outward by the second plumage, which first appears upon the shoulders. This second plumage is grayish brown streaked with black above, the under parts being much paler. The wing-coverts and under parts are delicately tinted with pink. This plumage is followed by the plumage of the adult, which is evidently acquired in late autumn or early winter, since, with one exception, all the several thousand birds I saw in May and June were in full plumage.

It is when the young Flamingo is in the second, or brown, plumage, and before he has acquired the power of flight, that he is most harassed by his unnatural but worst enemy—the Bahaman negro. The birds still remain



YOUNG FLAMINGO FEEDING AFTER THE MANNER
OF THE ADULT

in or about the rookery, where the negroes capture them by running them down or by the use of a long rope. With a man at either end of such a rope, a group of birds is partly surrounded and driven over the muddy 'Swash' toward the negroes' boat. Gradually they are rounded up and forced into shallow water, where they may be caught with comparative ease. They are then thrown into the hold of the boat and taken alive to the nearest settlement, where they readily command a good price. Some young Flamingos usually reach Nassau each year.

If the negro should not desire to

sell his prey, it is killed and placed in brine.

Probably no known Flamingo rookery in the Bahamas escapes these disastrous visitations, and we have here, doubtless, the chief cause for the continued decrease of these splendid birds. Fortunately, I am glad to say, a representation of the requirements of the case to the acting-governor of the Bahamas seems likely to be followed by the passage of a law designed to afford Flamingos much-needed protection.



YOUNG FLAMINGOS FEEDING EACH OTHER



1. MAGNOLIA WARBLER, MALE.
2. MAGNOLIA WARBLER, FEMALE.
3. MAGNOLIA WARBLER, YOUNG AND ADULT IN FALL.
4. KIRTLAND'S WARBLER, MALE.
5. KIRTLAND'S WARBLER, FEMALE.

(ONE-HALF NATURAL SIZE.)

For Teachers and Students

The Migration of Warblers

SEVENTH PAPER

Compiled by Professor W. W. Cooke, Chiefly from Data
in the Biological Survey

With drawings by LOUIS AGASSIZ FUERTES and BRUCE HORSFALL

HERMIT WARBLER

FROM its winter home in Mexico and Guatemala, the Hermit Warbler enters the United States in April, being reported from Oracle, Arizona, April 12, 1899, and the Huachuca Mountains, Arizona, April 9, 1902. Records of the first birds seen in California are Campo, April 27, 1877, and Julian, April 25, 1884. A Hermit Warbler was noted at Burrard Inlet, British Columbia, April 20, 1885.

In the fall the species has been noted as late as September 22, in Arizona, and October 9, in California.

TOWNSEND'S WARBLER

Townsend's Warbler winters principally in southern Mexico and Guatemala; a few sometimes remain, at this season, as far north as southern California. Migrants from Mexico begin to enter California, April 14 to 20. The earliest noted in 1888, at Chilliwack, B. C., was on May 19, but the usual date of arrival is probably several days earlier, for the average date of the first birds seen during five years at Columbia Falls, Mont., is May 7, varying from May 4, 1897, to May 11, 1896. First arrivals have been noted on April 9 in the Huachuca Mountains of Arizona; Loveland, Colo., May 11, 1889, and from Great Falls, Mont., May 28, 1890.

KIRTLAND'S WARBLER

This, the rarest of American Warblers, has been taken at West Jupiter, Fla., April 19 and 27; St. Helena Island, S. C., April 27 and May 3; St. Louis, Mo., May 8; Wabash, Ind., May 4 and 7; near Chicago, Ill., May 7; Rockford, Ill., May 25; Lake Koshkonong, Wis., May 24; Cleveland, Ohio, May 4, 12, 13 and 15; Ann Arbor, Mich., May 14, 15, 16 and 18; Battle Creek, Mich., May 11; Toronto, Ont., May 16; Minneapolis, Minn., May 13; Mackinac Island, Mich., May 21.

In the fall it has been noted at Fort Myer, Va., September 25, and at Chester, S. C., October 11.

The nest of this species was first discovered by Mr. Norman A. Wood in Oscoda county, Mich., July 8, 1903. (See Bull., Mich. Orn. Club, v, 1904, pp. 3-13.)

MAGNOLIA WARBLER

SPRING MIGRATION

PLACE	No. of years' record	Average date of spring arrival	Earliest date of spring arrival
<i>Atlantic Coast—</i>			
Atlanta, Ga. (near)	3	April 25	April 20, 1900
Washington, D. C.	4	April 30	April 22, 1891
Beaver, Pa.	5	May 5	May 2, 1899
Renovo, Pa.	8	May 7	May 2, 1903
Ballston Spa, N. Y.	5	May 9	May 4, 1891
Hartford, Conn.	6	May 10	May 9, 1892
Central Massachusetts	9	May 11	May 4, 1890
Southern Maine	6	May 10	May 6, 1899
Quebec, Can.	6	May 9	May 4, 1900
St. John, N. B.	9	May 16	May 10, 1895
Godbout, Que.	2	May 22	May 21, 1884
North River, P. E. I.	4	May 26	May 23, 1887
<i>Mississippi Valley—</i>			
Lower Rio Grande, Tex.			April 20, 1887
New Orleans and vicinity	5	May 3	April 26, 1903
St. Louis, Mo.	7	May 4	May 3, 1883
Morgan Park, Ill.	6	May 6	May 1, 1895
Rockford, Ill.	5	May 7	May 5, 1888
Northern Ohio	6	May 8	May 4, 1895
Southern Wisconsin	11	May 10	May 7, 1897
Southern Michigan	11	May 11	May 3, 1902
Southern Ontario	15	May 11	May 4, 1902
Parry Sound District, Ont.	11	May 13	May 6, 1895
Ottawa, Ont.	19	May 13	May 8, 1896
Lanesboro, Minn.	8	May 9	May 6, 1888
Aweme, Man.	6	May 16	May 11, 1900
Qu' Appelle, Assa.			May 18, 1899
Chippewyan, Atha.			May 23, 1901
Simpson, Mack.			May 23, 1860
Denver, Colo.			May 10, 1897
Santa Barbara, Cal.			May 15, 1897

FALL MIGRATION

PLACE	No. of years' record	Average date of first one seen	Earliest date of first one seen
Lanesboro, Minn.			August 12, 1887
Glen Ellyn, Ill.	6	August 22	August 12, 1896
Englewood, N. J.	3	August 23	August 16, 1887
Washington, D. C.	4	August 22	August 16, 1886
Raleigh, N. C.	3	September 13	September 11, 1889
New Orleans and vicinity	4	September 19	September 13, 1899

PLACE	No. of years' record	*Average date of last one seen	.Latest date of first one seen
Aweme, Man.			September 17, 1900
Ottawa, Ont.	3	September 17	September 19, 1895
Glen Ellyn, Ill.	7	September 29	October 9, 1894
North River, B. E. I.	4	August 21	September 8, 1890
St. John, N. B.	4	September 3	September 7, 1890
Beaver, Pa.	5	September 24	October 3, 1891
Renovo, Pa.	6	September 26	October 5, 1902
Washington, D. C.	4	October 2	October 10, —
New Orleans and vicinity	4	October 24	November 1, 1895

* Heading omitted

Report of the Circulating Collections Loaned by the American
Museum of Natural History to the Public Schools of
New York City, December 1, 1903, to July 1, 1904

By GEORGE H. SHERWOOD
Assistant Curator of Invertebrate Zoölogy

THE work of providing the public schools with collections to assist in nature study, which was begun in December, 1903, has been continued through the school year. In this period of six months, over one hundred collections have been in circulation, and have been used in one hundred schools in Greater New York. They have been delivered to schools in the boroughs of Manhattan, the Bronx, Brooklyn and Richmond.

For general information we have kept a record of the itinerary of each collection, and the number of pupils that have studied it in each school. These numbers are furnished by the principals over their signature. The records show that our collections were studied by the following number of pupils:—

		PUPILS
Birds	{ Spring 42,227 } Fall 54,367 }	96,594
Insects		34,071
Mollusks		10,870
Minerals		10,094
Crabs		7,428
Starfish		6,523
Sponges		2,393
Total		167,973

Thus, in the six months that our collections have been in circulation they have been studied by 167,973 pupils. Their usefulness is attested by the many letters of thanks and appreciation which we have received from teachers and pupils, with the earnest request that the Museum continue this work the coming year.

The way in which the collections have been utilized in the schools is shown by the following extracts from teachers' letters:—

In one school: "The birds were used for nature lessons, and in connection with oral language, writing dictation, color and drawing lessons."

From another school comes this report: "I should say that on the average, 1,000 children have observed and examined the specimens. Miss O'Brien has been giving a short lecture before the school on the different specimens and started with the crustacea. Her talk is given weekly, and the specimens are put right into the children's hands, and are passed so each child can see for itself. She talks to eleven assembled classes, making an average of about 500 or 600 children. The teachers then have short compositions written in their class-rooms upon Miss O'Brien's talk, and in

the lower classes an oral review is made. She has lectured on crustacea, starfishes, sea urchins, sponges and corals."

The birds and insects are in great demand, as the study of them is required in several grades. There are forty collections of the former, consisting of five birds each and representing twenty species of our more common birds.

The entire expense of providing the collections and of delivering them at the schools, as well as that of transferring them from one school to another, is borne by the Museum.

Use of the collections in the vacation schools.—The usefulness of our circulating collections is shown by the demand for them in the vacation schools during the summer. In the latter part of July requests were received from a number of the nature-study teachers in the vacation schools, asking if we could loan them material for their work. Thirty-three schools were supplied with collections of birds, and ten schools with collections of insects. The collections of birds, in the four weeks which they were retained at the schools, were studied by 15,224 children; the collections of insects by 7,000 children, making a total of 22,224. Thus more than two-thirds of the vacation schools in the city were using our collections.

The total number of children that studied the collections from December 1, 1903, to September 1, 1904, was 190,197.

Bird-Lore's Fifth Christmas Bird Census

THE plan of reporting one's observations afield on Christmas Day has met with such cordial and practical endorsement by bird students throughout the country that BIRD-LORE's Christmas Bird Census may now be considered a fixed event, which increases in interest as the accumulating records give additional material for comparison.

One of BIRD-LORE's readers, Mr. Harold E. Porter, has very kindly compiled the appended summary of the data contained in the four preceding censuses. Reference to the February, 1901, 1902, 1903, or 1904, number of BIRD-LORE will acquaint one with the nature of the report of the day's hunt which we desire; but to those to whom none of these issues is available we may explain that such reports should be headed by a brief statement of the character of the weather, whether clear, cloudy, rainy, etc., whether the ground is bare or snow-covered, the direction and force of the wind, the temperature at the time of starting, the hour of starting and of returning. Then should be given, in the order of the A. O. U. 'Check-

List, a list of the species seen, with exactly, or approximately, the number of *individuals* of each species recorded. A record should read, therefore, as follows:

Yonkers, N. Y. Time, 8 A.M. to 12 M. Clear; ground bare; wind west, light; temperature 38°. Herring Gull, 75: Total,—species,—individuals.—

JAMES GATES.

These records will be published in the February issue of BIRD-LORE, and it is particularly requested that they be sent the editor (at Englewood, N. J.) not later than December 28.

SUMMARY OF BIRD-LORE'S CHRISTMAS CENSUSES

	1900	1901	1902	1903
Total No. of lists . . .	25	34	53	78
Total No. of hunters . .	26	41	59	87
Total per cent of men . .	77%	80%	90%	90%
Species seen	96	71	133	167
Best record	36 (Cal.)	24 (N.J.)	38 (Mass.)	44 (Tex.)
Lowest record	3 (N.H.)	5 (N.Y. Wis.)	0 (P.E.I.)	2 (Mich.)
Warmest	+60 (Conn.)	+70 (La.)	+40 (S.C.)	+81 (Fla.)
Coldest	+16 (Wis.)	+32 (N.Y.)	-1 (Ill.)	0 (Wis.)
Most time	8 hrs., 45 min.	10 hrs., 10 min.	12 hrs., 18 min.	9 hrs., 30 min.
Least time	30 min.	1 hr., 30 min.	2 hrs.	30 min.
Average time	3 hrs., 25 min.	3 hrs., 45 min.	3 hrs., 40 min.	3 hrs., 35 min.
No. of states, etc., represented	14	12	19	24
Most lists from	Penna. (5)	N. Y. (10)	Mass. (10)	Mass. (14)
Most frequent species .	Chickadee, 92%	Song Spar., 85%	Crow, 62%	Chickadee, 73%
Second species	Crow, 88%	Crow, 79%	Tree Spar., 61%	Tree Spar., 69%

For one year, 1900, the total number of species recorded was 96. For two years the score was 118, for three 168, and for four 229.

Of this list one was a liberated cage bird, two accidental, and three introduced species (Starling, Pheasant and European Goldfinch).

It is interesting to note that Mr. William B. Evans has, on three occasions, scored the greatest time record, and that in one of these years, 1901, he secured the best list. The increase in the per cent of men hunting is also notable.

It is gratifying to notice that scarcely a dozen records have been accorded a "?." This certainly shows that the birds are closely enough perceived to make satisfactory identification of about 99 per cent of them.—
HAROLD E. PORTER.

A BIRD-HOUSE NUMBER

The next issue of BIRD-LORE will be largely devoted to the subject of bird-houses. Notes and photographs relating to this important phase of bird protection should reach us not later than December 15.

Notes from Field and Study

Balancing Robins

Perhaps the following observations on a Robin's methods of balancing will be of interest to the readers of BIRD-LORE. On February 21, 1904, a heavy sleet fell, and by the afternoon everything was so coated with ice that many of the birds found it a hard matter to secure food. Three or four hundred Robins came into the barnyard in search of food. A persimmon tree that stood near the granary where I was concealed, seemed to be the center of attack. Usually between twenty-five and fifty Robins were in this tree at once, eating the fruit and calling an occasional loud *pip*, or *piep*.

The branches of this tree were so laden with ice that the birds could not easily secure a foothold, and were continually slipping and tumbling about. I was concealed within a few yards of the tree and had a good opportunity to observe the many different methods used for maintaining a balance. When a Robin first flew into the tree he usually held both wings high over his back until he had gained a firm position, and the tail also was usually spread wide to aid him. When in danger of falling the wings were often raised only slightly and the tail spread about half-way, until the balance had been regained. Sometimes a coated persimmon was just out of reach, and then the bird would crane his neck out until in imminent danger of tumbling headlong. Then, as quick as a flash, he would thrust out a wing, and I saw them even stand in this position balancing with one wing until they were either satisfied that the fruit was not to be had or had secured it. The left and right wings were both seen to be used in this operation. The tail was sometimes used in conjunction with one or both wings, being wholly or partly spread and usually pumped up and down. As an extreme measure, when nearly falling headlong, I have seen the Robin thrust out one wing on the side of his body that was lowest, and

bring it quickly forward until it was nearly on a level with his head.

Often one of the ice-coated branches would fall, and it was amusing to see the Robin who was perched thereon pick himself up, so to speak, in mid air. When the crackling of the branch was heard the birds usually flew away, but soon returned and were as busy as before. A small flock of Cedar Waxwings was engaged in the same pursuit, but I did not see one of them fall or balance himself, probably because of their lighter weight and because they were not so clumsy as the Robins.—ERNEST SEEMAN, Greensboro, N. C.

The European Skylark near New York City

On July 22 and 29, of this year, I had the opportunity of seeing and hearing Skylarks within an hour's journey of New York City. The birds were seen in and over extensive fields of timothy, clover, red-top and sorrel, situated about one and one-half miles northwest of Canarsie, L. I. Other birds of the immediate vicinity were Grasshopper and Vesper Sparrows and Meadowlarks, all of which breed abundantly, a pair of Great Blue Herons, a pair of Sparrow-hawks, besides a few Spotted Sandpipers, Indigo Buntings, Barn Swallows, English Sparrows and Starlings, and numerous Song Sparrows, Swifts and Chipping Sparrows.

Skylarks were heard singing almost continually, although the singer was frequently not in sight. The song must be heard to be appreciated. The bird rises from a low perch and, ascending in a very irregular spiral, pours forth a medley of notes reminding one at times of the Canary, Long-billed Marsh Wren, Bobolink and Goldfinch! The descent is much quicker than the ascent—a few turns in the spiral and then the bird rapidly descends on closed wings until within a few feet of the ground, when it spreads its wings and, after sailing

a few feet, alights. Just before it descends the bird utters, in rapid repetition, a series of notes that are almost an exact imitation of the call of the Spotted Sandpiper. One individual was observed singing while on the ground.

It was observed that the length of the bird's flights varied from one-half of one minute to more than three minutes. In England, it is said; when the sky is clear the bird will remain in the air for twenty minutes at a time.—ISAAC BILDERSEE, *New York City*.

A Venturesome Titmouse

I have been greatly surprised at the recent performances of a Tufted Titmouse, locally called Tomtit. For several days he was noticed to be disturbing the slumbers of the house-dog (a long-haired Shepherd)—flying around him, and following him to the porch. When the dog was fast asleep the bird would make a dive at him, with sufficient force to awaken and irritate the dog. We did not immediately understand that it was the dog's hair that the bird wanted.

A member of the household followed the pair of Tomtits to a little ravine back of the house, where the trees are closely entwined with wild grape-vines—hoping to get a look at the nesting place,—making herself as inconspicuous and unmovable as possible. The Tomtit soon observed her and began to fly around her, lit several times on her shoulder, and finally gave several vigorous pulls at her hair. Yesterday two members of the household went to the spot and seated themselves some distance apart. The Tomtit soon appeared to recognize the brown costume and brown hair of his former visitor, boldly approached, lit on the young woman's back (she insists it was the same bird), braced himself, put back his head (so says the companion), and pulled with all his might at her back hair, which he succeeded in partially pulling down.—S. B. BRODHEAD, *Spring Station, Ky.*

A Sensible Cardinal

A pair of Cardinals built this spring in a honeysuckle at the side of a neighbor's

porch. The first egg was not laid until April 17, two weeks after the nest was finished, owing to the belated spring, I suppose. The second and third eggs were laid on the following two days. On the 20th, the day after the third egg was laid, a heavy snow fell, beginning early in the morning and continuing until noon. The female retained her place on the nest until about ten o'clock, when either hunger or the unusual atmospheric conditions caused her to leave it. When she returned, perhaps fifteen minutes later, the nest was full of snow, to the brim. She exhibited signs of distress and began to eat the snow, greedily, to get rid of it. Occasionally she got on to the nest, as if to press the snow out. By evening, between eating and melting the snow with the heat of her body, the nest was clear again. After this long submergence in snow and snow-water, we all supposed, of course, that the eggs were hopelessly chilled. The mother-bird differed with us, however, and continued to incubate; and on May 1 one egg hatched.—ELMORE ELLIOTT PEAKE, *Salem, Ill.*

Taming a Robin

A Robin built this spring in an apple-tree of a neighbor's, about six feet from the ground. When first approached she would quietly leave the nest, but after a few trials of this kind she resolutely stuck to her post. If touched she would shrink to the further edge and peck at one's fingers. Eventually, however, she ceased to show fear, and would tamely allow herself to be stroked. Later, when the eggs were hatched, she would sit on the edge of the nest while I fed earthworms to the young, and would occasionally reach out for one herself. She would sit for fifteen minutes at a time on the edge of the nest and allow me to stroke either back or breast, and even to extend her wing its full length. Moreover, any stranger could take the same liberties. The male, however, looked with a disapproving eye on these familiarities, and kept at a distance. Such tameness may not be unusual, but it never came under my observation before.—ELMORE ELLIOTT PEAKE, *Salem, Ill.*

Book News and Reviews

THE HAUNTS OF THE GOLDEN-WINGED WARBLER. By J. WARREN JACOBS. Gleanings No. III. Waynesburg, Pa. 8 vo. Ills. 32 pages.

An especial interest is attached to Mr. Jacobs' bird studies. They constitute the best answer to the local ornithologist's query, "What shall I do?" with which we are familiar. In by far the larger number of cases when the resident ornithologist has published a list of the birds of his region, his subsequent contributions to knowledge consist of an occasional record of the occurrence of some rare or unexpected bird. This is all useful and interesting as far as it goes, even if it does not go very far, but, instead of being the end, it should be the beginning of one's studies of bird-life.

There remain a thousand subjects for investigation, so many, indeed, that we generally miss all our opportunities by failing to concentrate on one of them. Mr. Jacobs, however, is an exception. He has selected a field for research and devoted himself to it for several years. As a result he has given us the best account of a Martin colony which has as yet been published (see BIRD-LORE, V, p. 31), and he now issues the most complete biography of the Golden-winged Warbler extant.

It does not follow that Mr. Jacobs has enjoyed unusual opportunities for research. His success is due rather to persistent effort definitely directed; and it is perfectly safe to say that the same amount of attention intelligently devoted to the study of even the commonest species will yield equally valuable returns.

Mr. Jacobs treats at length of the haunts of the Golden-wing, its migration, sociability, nest-building, eggs, song, food and young in so interesting and satisfactory a manner that we commend his work to all students who propose to join with us in the preparation of our projected work on Warblers. In only one particular would we urge them not to follow his example. Do not rob the bird of its eggs, and at the same

timey ourselves of an opportunity to study its home-life. With but few exceptions our collections contain sufficiently large series of Warblers' eggs to permit of an adequate description of their color, shape and size.

The value and novelty of Mr. Jacobs' paper consists not in his descriptions of the color and markings of the Golden-wing's eggs, but in his account of its habits; and we cannot but feel that the latter would have been better if his series of eggs had been smaller.—F. M. C.

SOME NEW FACTS ABOUT THE MIGRATION OF BIRDS. By W. W. COOKE. Year-book of the Department of Agriculture for 1903, pages 371-386.

Professor Cooke has not only devoted many years to the study of bird migration in the field, but as an assistant in the Biological Survey he has access to an unequaled amount of migration data, as the readers of BIRD-LORE have good reason to know. His contributions, therefore, to the literature of bird migration have an especial value. The present paper is of such concentrated interest that we feel tempted to follow the example of 'The Condor' and reprint it in full; but we content ourselves by urging our readers to secure a copy of the September-October 'Condor' in which it appeared.

The causes, casualties, distances, routes, and speed of migration, how birds find their way, the relation of migration to temperature, and other significant phases of the subject are treated, and indicate the character of the paper.

"The beginnings of migration, ages ago," Professor Cooke writes, "were intimately connected with periodic changes in food supply, but this motive is at present so intermingled with others unknown, or but imperfectly known, that migration movements seem now to bear little relation to the abundance or absence of food." He believes in the existence of a "sense of direction," and states that "it is probable that

this faculty is exercised during migration." He repudiates the current belief that coast lines, mountain chains, and river courses form well-marked highways of migration, and says, "the truth seems to be that birds pay little attention to natural physical highways, except when large bodies of water force them to deviate from the desired course." The existence of a much-frequented migratory route from Florida to Cuba, and thence westward to Yucatan, is denied, it being stated that, as a matter of fact, most birds cross the Gulf of Mexico directly to Yucatan and Mexico.

Particularly valuable is that portion of Professor Cooke's paper devoted to the variations in the speed of migration, in which it is shown that with certain species "the speed increases as the birds move northward, because the advance of the seasons is more rapid in the northern interior than on and near the southern coast."

In regard to the alleged disappearance of the Chimney Swift after leaving the shores of the Gulf States, the British Museum Catalogue (xvi, p. 481) lists specimens of this species from Jalapa, Yucatan and Guatemala.—F. M. C.

A PRELIMINARY REVIEW OF THE BIRDS OF NEBRASKA. With Synopses. By LAWRENCE BRUNER, ROBERT H. WALCOTT and MYRON H. SWENK. 8vo. 125 pages. Kloss & Bartlett Co., Omaha, Neb.

This list becomes at once the authoritative, standard faunal paper on Nebraska birds. The annotations are detailed and satisfactorily definite, while the introduction of analytical keys makes the work, in a measure, a text-book from which one may learn not only a bird's status but its name.

Professor Bruner's introductory paper on 'Birds in Relation to Agriculture and Horticulture,' gives due prominence to this side of ornithological research, and emphasizes the importance of the work of economic ornithologists.—F. M. C.

CATALOGUE OF BRITISH COLUMBIA BIRDS. By FRANCIS KERMONDE. Provincial Museum, Victoria, B. C. 8vo. 69 pages.

This paper will replace Fannin's 'Check-List of British Columbia Birds,' to which

it adds 24 species, making a total of 363 species and subspecies which have now been recorded from British Columbia.—F. M. C.

The Ornithological Magazines

THE AUK.—The October 'Auk' opens with a sketch of 'A Fortnight on the Farallones' by Milton S. Ray, and, although this bird colony has been the theme of many another pen, Mr. Ray's delightful descriptions and striking photographs are a welcome addition to the literature of the island.

Some additions to Mitchell's list of birds of New Mexico are made by Florence M. Bailey, and the balance of the magazine is devoted to birds of the South. Mr. R. W. Williams presents 'A Preliminary List of the Birds of Leon County, Florida,' Chas. R. Stockard writes on the 'Nesting Habits of the Woodpeckers and Vultures of Mississippi,' and Andrew Allison offers an annotated list of 'The Birds of West Baton Rouge Parish, Louisiana.'

We notice that Mr. Williams states that the male Red-winged Blackbird assumes, in winter, the plumage of the female. He has evidently mistaken the young males for females and not seen the black adults with the red shoulder-patches. This raises the question, Where have the adults betaken themselves, for they are certainly conspicuous enough not to escape notice.

Notes, reviews and index carry the total number of pages for the year up to 531, the largest volume ever put in the hands of members of the A. O. U. The year 1903 will be memorable for the first discovery, in Michigan, of the nest of Kirtland's Warbler, to which reference is made at page 506. It is to be regretted that the original record did not find its way into the 'Auk,' but at page 487 Edward Arnold records from the same locality another nest taken in 1904.—J. D., Jr.

THE CONDOR.—Since our last review two numbers of 'The Condor' have appeared, both replete with interesting notes and news. In the July-August number Mrs. Bailey describes her experience with 'A Dusky Grouse and Her Brood in New Mexico,'

Walter K. Fisher writes of 'Three Boobies Interviewed' on Laysan Island, M. French Gilman gives an account of the habits of 'The Leconte Thrasher' from observations made along the western edge of the Colorado Desert in California, and Adolph E. Schutze describes the 'Nesting Habits of the Caracara in Texas.' Under the title 'About the Utah Gull,' Rev. S. H. Goodwin calls attention to the confusion of names under which the California Gull (*Larus californicus*) has been referred to by writers on Utah birds. Mention should also be made of a paper by Loye H. Miller, who contributes an annotated list of about seventy species of birds observed in the John Day region of Oregon in 1899. The illustrations comprise a frontispiece and eleven half-tone text figures.

Nearly one-half of the September-October number is devoted to Professor W. W. Cooke's interesting paper on 'Some New Facts about the Migration of Birds,' reprinted from the Year-book of the Department of Agriculture for 1903. Rev. S. H. Goodwin describes a visit to a colony of 'Pelicans Nesting at Utah Lake,' but omits to mention the year—an unfortunate oversight in view of the statement that this was the first time the birds had nested at this place. Two hundred or more young birds were found, but only a few eggs. A. W. Johnson contributes 'Notes on Unusual Nesting Sites of the Pacific Yellow-throat,' and W. L. Finley a short paper on 'The Lutescent Warbler in Oregon.' Emerson comments on several *reported* instances of birds caring for broken legs or wings, and C. H. Richardson, Jr., presents a briefly annotated 'List of Summer Birds of the Pinte Mountains, California.'

The series of portraits of naturalists is continued with excellent likenesses of Harry C. Oberholser, in the July number, and of Mrs. Florence Merriam Bailey in the September number.—T. S. P.

WILSON BULLETIN.—No. 48 of 'Wilson Bulletin' contains the following articles: 'Notes on the Holboëll Grebe,' by R. J. Sim; 'An Ornithological Reconnaissance of the Grand Reservoir, Ohio, in 1904,' by

W. F. Henninger; 'July Fourth Censo-Horizons, 1904,' Lynds Jones; 'Spring Migration Along Lake Erie's Shore,' by R. J. Sim; 'Additions to the List of the Winter Birds of Wayne County, Mich.,' by B. H. Swales; 'Some Barn Swallow Nests,' by C. J. Hunt; 'Lawrence Warbler Breeding in Bronx Park, New York City,' by G. E. Hix; 'An Addition to the Birds of Ohio,' by Lynds Jones; 'All Day With the Birds,' Lynds Jones, and 'Some Needed Work,' Lynds Jones. Mr. Sim records some very interesting and valuable observations in relation to the habits and actions of a captive Holboëll Grebe, which he was fortunate in having the opportunity to study for a considerable length of time. The various characteristic attitudes and movements of the bird while feeding, drinking, bathing, preening, sleeping, swimming, diving, standing and walking, as well as the effect of curiosity, fear and other mental impressions upon it, were carefully noted. Lynds Jones makes some timely suggestions in 'All Day With the Birds' and 'Some Needed Work' in connection with bird study in the field. Any one who has had occasion to go beyond his own observations and experiences in search of facts touching on the life histories of birds has learned how little can be gleaned from the books on the every-day habits of our common birds. Although it is desirable to work out and describe new species and subspecies where they really exist, it would seem more commendable, however, if a greater number of our ornithologists devoted their energies to gathering facts relating to the habits of well-known forms and to leave the arduous task of species-building to its advocates.—A. K. F.

The Audubon Calendar

The Massachusetts Audubon Society Audubon Calendar for 1905 consists of six large plates of Warblers with descriptive text on the back of each plate. The price of the Calendar is 60 cents, postpaid. Special rates will be given to Audubon Societies ordering twelve or more Calendars. Address orders to the Secretary of the Society, care of the Boston Society of Natural History, Boston.

Bird-Lore

A Bi-monthly Magazine

Devoted to the Study and Protection of Birds

○ OFFICIAL ORGAN OF THE AUDUBON SOCIETIES

Edited by FRANK M. CHAPMAN

Published by THE MACMILLAN COMPANY

Vol. VI Published December 1, 1904 No. 6

SUBSCRIPTION RATES

Price in the United States, Canada and Mexico twenty cents a number, one dollar a year, postage paid.

COPYRIGHTED, 1904, BY FRANK M. CHAPMAN

Bird-Lore's Motto:

A Bird in the Bush is Worth Two in the Hand

THE most exacting critics of a magazine illustration are undoubtedly the artist whose drawing it reproduces and the author whose text it accompanies. It is natural, therefore, that, among the many commendations of our colored Warbler plates, which we have received during the past year, the following from Mr. Fuertes and Professor Cooke have afforded us the most pleasure and satisfaction:

"I have been surprised and gratified by the success you have achieved in reproducing the Warbler plates. I should not have supposed it possible to represent so accurately the delicate buff and chestnut tones found in some of the female and young plumages, even with more colors at your disposal. The results are, however, more than merely satisfactory, and I think you are to be congratulated for having devised so adequate a means of giving us reliable pictures of our Warblers in all their important plumages.

Very sincerely yours,

LOUIS AGASSIZ FUERTES."

"You are setting a new mark for those striving to get the best possible bird pictures. These Warbler plates are easily the best things in the line I have ever seen, and a person would have to be pretty blind that could not identify a Warbler from them. They have the combination, so hard to secure, of artistic excellence and scientific accuracy. Yours truly,

WELLS W. COOKE."

THE success which has attended the efforts of the American Museum of Natural History to make its collections of practical value to the teachers of New York City by supplying them with specimens, as reported in this number of BIRD-LORE, suggests the adoption of a similar plan by other museums and natural history societies. As far as birds are concerned, possibly the Audubon Societies might add small traveling bird collections to their circulating lectures and libraries.

Doubtless ornithologists throughout the country would donate specimens for an object of this nature, and the plan could, therefore, be carried out not only without entailing the destruction of a single bird, but it would bring into use numbers of specimens which, having been studied, are now lying idle in cabinet drawers.

For class-room use, at least in the lower grades, the birds, in our opinion, should be mounted. Wholly aside from the greater educational value of the mounted bird, a bird-skin too closely resembles a dead bird to make it desirable teaching material for children. The mounted bird, on the contrary, to the imaginative child mind, stands for the living creature, and is as much more effective than a drawing in creating a definite, realistic impression, as a doll is better than a doll's picture.

WHILE the uneducated natives of the countries in which Flamingos nest still generally believe that, when incubating, Flamingos straddle their nests with a leg dangling on each side, we had supposed that among naturalists, at least, this question was settled years ago.

We learn, however, from the October 'Ibis' that M. F. de Chapel, who observed Flamingos' nests in southern France in June, 1904, "gives measurements of the nests and the parent birds, from which he draws the conclusion that the latter sit with one leg on each side of the nest, as equilibrium would otherwise be impossible." Reference to the photograph on page 194 of this issue of BIRD-LORE and to others in 'The Century' for this month, showing hundreds of sitting birds, will emphasize the danger of "drawing conclusions."

BIRD-LORE FOR 1905

BIRD-LORE believes in expansion. It wishes to become not only a better, but a larger magazine. Many inviting opportunities for improvement and development, valuable communications, interesting photographs, are of necessity refused, and the publication of accepted contributions is often long delayed all for the same old, tiresome reason 'lack of space'—an excuse infinitely more irritating to us than to those to whom we are obliged to make it. We most earnestly hope, however, that BIRD-LORE will be found worthy of sufficient support to permit us to carry out our plans for the coming year.

PROF. T. GILBERT PEARSON, of the Normal College at Greensboro, North Carolina, who has been so remarkably successful in Audubon work in the South, has assumed the editorship of the Young Observer's Department, and under his care we are assured that this department can be made extremely attractive and stimulating to BIRD-LORE's younger readers.

MR. WITMER STONE, whose post as Conservator in the Academy of Sciences in Philadelphia, the cradle of American ornithology, is perhaps responsible for his unusually keen and sympathetic insight into the lives of early American ornithologists, will contribute to BIRD-LORE during the coming year a series of biographical sketches of these pioneer bird students. Illustrations for these articles will be supplied by Mr. Ruthven Deane, who has kindly placed his unrivaled collection of ornithologists' portraits at BIRD-LORE's disposal for this purpose.

THE February issue of BIRD-LORE, as we have previously announced, will be largely devoted to articles on Bird Houses.

This number will also contain the results of the Christmas Bird Census and the list of prominent ornithologists, composing BIRD-LORE's Advisory Council, who have consented to aid bird students throughout the country with information and advice.

In succeeding issues we expect to present a paper by John Burroughs on 'Birds in Books' and also contributions from Brad-

ford Torrey and Ernest Thompson Seton.

Prof. William Morton Wheeler has written a most interesting article on the structure of birds' wings, which, among other illustrations, will contain a restoration of the *Archæopteryx* by Charles R. Knight, and C. William Beebe will tell us of his experiences last winter in Mexico.

OUR files are overflowing with photographs awaiting publication, and some of them are of unusual interest, notably those of dozens of Cormorants nesting in a single tree in North Carolina, by T. Gilbert Pearson, and a unique set recording the growth of a bird, day by day, by E. R. Warren.

BIRD-LORE's attempt to provide good, reliable colored plates of birds has not only been pronounced an artistic and scientific success, but it has brought that measure of practical endorsement which ensures the continuance of this popular feature. All the Warblers plates have been drawn, and we trust that circumstances will warrant our placing enough plates in each number of BIRD-LORE to complete the series in the next volume.

We particularly want to give Mr. Dutcher colored plates for his Educational Leaflets. Already widely used, they would have an even greater educational value if colored figures of the birds of which they treat were included in each number.

IT is also our ardent desire to publish Mr. Dutcher's Annual Report as Chairman of the National Committee of Audubon Societies in BIRD-LORE. This important document gives in detail, state by state, the work for bird protection during the year. Reports from the wardens employed, information concerning legislative, educational and other allied matters are set forth at length, and the report is not only of present interest but is valuable for reference. A single number of this report is double the size of BIRD-LORE, but we hope that during the present month our subscribers will vote so unanimously in favor of its publication that we may include it in our February issue. May we add that you will find a pink ballot placed in this number of BIRD-LORE. Vote early!

The Audubon Societies

*"You cannot with a scalpel find the poet's soul,
Nor yet the wild bird's song."*

Edited by MRS. MABEL OSGOOD WRIGHT and WILLIAM DUTCHER

Communications relating to the work of the Audubon and other Bird Protective Societies should be addressed to Mrs. Wright, at Fairfield, Conn. Reports, etc., designed for this department should be sent at least one month prior to the date of publication.

DIRECTORY OF STATE AUDUBON SOCIETIES

With names and addresses of their Secretaries

California.....	W. SCOTT WAY, Pasadena.
Colorado.....	MRS. MARTHA A. SHUTE, Denver.
Connecticut.....	MRS. WILLIAM BROWN GLOVER, Fairfield.
Delaware.....	MRS. WM. S. HILLES, Delamore Place, Wilmington.
District of Columbia.....	MRS. JOHN DEWHURST PATTEN, 2212 R street, Washington.
Florida.....	MRS. I. VANDERPOOL, Maitland.
Georgia.....	PROFESSOR H. N. STARNES, of Experiment.
Illinois.....	MISS MARY DRUMMOND, 208 West street, Wheaton.
Indiana.....	FLORENCE A. HOWE, Hillside Ave., Indianapolis.
Iowa.....	MRS. W. F. PARROTT, Waterloo.
Kentucky.....	MISS JULIET O. ALVES, Henderson.
Louisiana.....	MISS ANITA PRING, 1682 Peters ave., New Orleans.
Maine.....	MRS. C. B. TUTTLE, Fairfield.
Maryland.....	MISS ANNE WESTON WHITNEY, 715 St. Paul street, Baltimore.
Massachusetts.....	MISS JESSIE E. KIMBALL, care Boston Society of Natural History, Boston.
Michigan.....	JEFFERSON BUTLER, Suite 79, Home Bank Building, Detroit.
Minnesota.....	MISS JESSIE WHITMAN, 2356 Bayless ave., St. Paul.
Missouri.....	AUGUST REESE, 2516 North Fourteenth street, St. Louis.
Nebraska.....	MISS JOY HIGGINS, 544 South 30th street, Omaha.
New Hampshire.....	MRS. F. W. BATCHELDER, Manchester.
New Jersey.....	MISS JULIA SCRIBNER, 510 E. Front street, Plainfield, N. J.
New York.....	MISS EMMA H. LOCKWOOD, 243 West Seventy-fifth street, New York City.
North Carolina.....	T. GILBERT PEARSON, Greensboro.
North Dakota.....	MISS ELIZABETH L. ABBOTT, Grand Forks.
Ohio.....	MRS. D. Z. MCCLELLAND, 820 West Ninth street, Cincinnati.
Oklahoma.....	MRS. ADELIA HOLCOMB, Enid.
Oregon.....	A. W. ANTHONY (Pres't), 900 Thurman street, Portland.
Pennsylvania.....	MRS. EDWARD ROBINS, 114 South Twenty-first street, Philadelphia.
Rhode Island.....	MRS. H. T. GRANT, 187 Bowen street, Providence.
South Carolina.....	MISS S. A. SMYTH, Legare street, Charleston.
Tennessee.....	MRS. C. C. CONNER, Ripley.
Texas.....	MISS HOPE TERHUNE, La Porte.
Vermont.....	MRS. FLETCHER K. BARROWS, Brattleboro.
Virginia.....	MR. E. C. HOUGH, Falls Church.
Wisconsin.....	MRS. REUBEN G. THWAITES, 260 Langdon street, Madison.
Wyoming.....	MRS. CORDELIA CHIVINGTON, Cheyenne.

The Lodging and Feeding of Birds

While it is to be hoped that the coming winter may be less severe than the last, in all but the southern states winter at best is a period of hardship for the birds, and not alone for the species that gather about dwellings, making a direct appeal to one's sympathies; but for the game-birds no less, while these last are more apt to be neglected because we of necessity see less of them.

It would be well if the secretary of each State Audubon Society could issue a post-

card giving concise directions for feeding to all local secretaries and members who are school teachers, for in this way a chain of feeding stations can be established throughout the country.

This matter of feeding is not the careless affair that it seems; but in order to be effective must be conducted systematically and intelligently.

A random scattering of crumbs is not feeding birds in general; but English Sparrows in particular. Discrimination must be used, and an edged-shelf (perforated

so as to allow water to drain off) placed high enough from the ground to be out of cat-range, to hold the food. As an additional precaution, a few nails may be driven at a downward angle of 45° into the post, tree, or building upon which it rests.

This shelf should be spread with crumbs, sweepings of granary or hay-loft, cracked corn, nuts, and pounded dog-biscuits, while upright twigs of a near-by tree should be sharpened close to the trunk to hold the lumps of suet craved by all insect-eaters like the Woodpeckers, Nuthatches, Chickadees and Brown Creepers.

Protected boxes in the south side of brush-heaps or in the center of the stacks of corn-stalks left standing in fields, kept supplied with grain-sweepings or cracked corn, will make a vast difference with the Ruffed Grouse and in the Quail flocks the next spring; and if the gentleman farmer can be persuaded to sow even one-quarter of an acre of buckwheat, and leave the shocks standing to be so many field lunch-counters for the hungry game-birds that furnish him with autumnal sport, another important step will be taken on the road of Bird Protection.

Once let a community get in the habit of feeding its winter birds, and it will gain a good reputation among them, and surprising results will ensue.

Winter housing is of necessity on a different plan from the providing of family quarters for the nesting season. Cover, not privacy, is the one thing needful, and shelter from the wind is the first consideration.

On the trunk of the old apple tree that holds my bird lunch-counter a board has been fastened against which a flat-backed lantern is hung nightly. The lantern frame being of tin, a slight heat is imparted to the board, but merely enough to take the chill from it. Several winters ago I discovered that Nuthatches and Downy Woodpeckers, evidently attracted by the warmth, made their bedroom in the nooks between this flat board and the rounding side of the tree, the rough bark giving them a firm grip; while Chickadees and Juncos have been found roosting in the cow-barn just above the cattle, where the air was tempered by their warm breaths.

As an experiment I have tried utilizing boxes the size that contain one hundred pounds of laundry soap. On the front of the box a rough hood is fastened with a drop equal to half the height of the box, and perches are placed across three-fourths of the way up, with pegs like stairs placed at intervals from the bottom upward. These boxes were placed in sheltered places, under the leaves of a low building, etc.

The first season they were unoccupied, but for two years, feathers and droppings show how well they have been appreciated by birds of many kinds and sizes, and this season I am thatching two of them with straw to make the shelter more snug and attractive.

Spring is the best time for setting up winter houses, and winter the season for preparing nesting houses, as a certain amount of "weathering" is necessary to remove all suspicion from the bird's mind, which appears to be ultra-conservative and averse to newness. Above all, avoid the use of strong-smelling paints, and if you cannot obtain old weathered boards for your lodging house, be content with a dull green or brown shingle stain *not* of the creosote variety.—M. O. W.

Report of the Audubon Society of the District of Columbia for 1903-4

Commencing with October 17, 1903, a millinery exhibit was held at the Raleigh Hotel, attracting many strangers as well as residents. A bad, rainy day was against us, but, in spite of that, the show was a success. This was followed by an autumn water-party to the Great Falls of the Potomac. The day was beautiful, and birds and humans were both happy. November 10, a reception for members of the society and their friends was held at the Washington Club. Charts, literature and some good music added to the social pleasure of the evening.

Regular meetings of the society were held through the winter as follows:

December 8, 1903.—Illustrated lecture, 'A Naturalist in Mexico.' Speaker, Mr. E. W. Nelson.

January 20, 1904.—Annual Meeting, Report of the secretary and the treasurer. Lec-



A FIELD MEETING OF THE CALIFORNIA AUDUBON SOCIETY

Photographed by C. J. Crandall & Co.

ture—'A Trip into Florida,' illustrated with the most beautiful lantern-slides. Speaker, the Rev. Herbert K. Job. This lecture was delivered before a very full house and created the greatest admiration and enthusiasm.

February 9.—Regular meeting. Program: 'Birds in Song'—Miss Given. Selected poems read by Miss E. V. Brown. 'Birds in Prose'—Mrs. Wallace Radcliffe. Informal notes by members.

March 8.—Regular meeting. Topic—'Bird Protective Legislation and Methods of Enforcement, with special reference to the District of Columbia,' Dr. T. S. Palmer.

April 12.—Two lectures were given at this meeting. One on 'Migration,' by Professor W. W. Cooke. The second by Mr. Henry Oldys and called 'In Nature's Domains.' This was most interestingly illustrated by bird notes and calls.

In April began our field meetings and bird classes. Four outdoor meetings were held, two in April and two in May.

April 8, we began our class for bird study. The subjects for these classes were: 'General Study of Birds: derivation, classification, etc.'; 'Distribution and Migration'; 'Economic Value, Nests and Eggs'; 'Bird Songs and Dances.' These classes interested about sixty persons and were most ably conducted by Mr. Henry Oldys.

Our season closed with these lectures, and we all feel that last year was our most successful period since the society was organized.

This year we have an illustrated lecture of our very own, from which we hope for further good results. The program of last year proved such a success that it is probable the same ideas will be called into use, varying only in detail and subjects for lectures and study.

JEANIE MAURY PATTEN, *Secretary*.

First Annual Meeting of the California Audubon Society

The first annual meeting of the California Audubon Society was held in a grove at Altadena, a beautiful suburb of Pasadena,

on June 4, 1904, the organization at that date being but little more than two months old.

There was a large attendance of members who enjoyed a delightful day beneath the trees. The program included an address of welcome by the President, Dr. Garrett Newkirk; an interesting talk on 'Our Protected Birds,' by Professor Joseph Grinnell; recitations by Catherine Pierce Wheat and Marcia Coolidge; an address by Dr. E. L. Conger, and appropriate remarks by a number of members and visitors.

Letters of greeting and congratulation were read from Olive Thorne Miller, William Dutcher, Charles Keeler and Dr. William Rogers Lord. Promised letters from Mabel Osgood Wright and Florence Merriam Bailey were delayed in the mails and did not reach the secretary in time for the meeting. They were read, however, at a special meeting of the society a few weeks later and received with great interest and pleasure.

The report of the Secretary, submitted at the meeting, was very satisfactory and encouraging. It showed that the society had already accomplished much good in the way of bird protection and was gaining rapidly in members and influence. A county ordinance prohibiting all shooting on the public roads had been secured, a large number of warning notices and cards containing bird- and game-laws had been posted or distributed, cases of nest-robbing were under investigation and there had been one conviction for violation of the game-laws.

The California Audubon Society is making splendid headway. There are now four senior and five junior sections, with a total membership of about six hundred. Public sentiment has been aroused, especially in the interest of the protection of the Mourning Dove, and the society is receiving messages of good-will and offers of assistance from friends of the birds in all parts of the state.

The local societies will soon federate as a state organization, which will be prepared to urge the 'Model Law' at the legislative session of 1905.

W. SCOTT WAY, *Secretary*.

For Young Observers

Edited by T. GILBERT PEARSON

Address all communications for this Department to the Editor, at Greensboro, N. C.

A PERSON who has never fed the wild birds has missed a pleasure which can come in no other way. It is such a joy to give happiness to nature's untamed creatures that any one who can do so is the loser if he does not avail himself of the opportunity. In winter this can be done, probably, in no better way than by providing them with food when the natural store is low.

After the frosty nights of autumn have destroyed or put to sleep the great hordes of insect life in the fields and woods, and the snows have come and covered the seeds of the grasses and of all but the tallest weeds, there are many little hungry mouths in the land. The difficulty of finding sufficient food is often increased by the numbing effect of the fierce gales which sweep through the forests or the chilling damp from a biting sleet. These are the times of all others when food should be placed where the birds can reach it. Usually they will show their hearty appreciation by eating liberally of the supply.

On another page Mrs. Wright suggests some of the methods she has employed in feeding birds. There are so many ways of doing the same thing, however, that it would be helpful to learn how some of our Young Observers feed the birds. It would also be interesting to know the names of the feathered guests who come to the banquet spread for them.

We should, therefore, like to publish in the next number of BIRD-LORE some experiences of persons who have given food to wild birds in winter and watched them while feeding.

Three prizes are offered to the boys and girls of fourteen years or under, who send the best letter of three hundred to four hundred words on 'Feeding Birds in Winter.' The prizes will be a bird book or books to the value of \$2.50 for the first prize, \$2 for the second prize, and \$1.50 for the third prize.

The letters should be sent to the Editor of this department, at Greensboro, North Carolina, not later than January 1, 1905, in order that the prize-winners may be announced in February BIRD-LORE.—T. G. P.

A Birds' Christmas Tree

By ELVA L. BASCOM

PERHAPS readers of BIRD-LORE will be interested in hearing of a birds' Christmas tree that added to the holiday pleasure of a household, as well as to that of its bird neighbors. The charming idea was carried out last Christmas by a family living just outside Poughkeepsie,

and a large lawn with shrubbery and trees contributed to its success. The tree was placed on the roof of a veranda and fastened to the narrow strip dividing a large double window, so that it was easily seen from the room. Festoons of pumpkin-seed strings took the place of popcorn, suet was tied to the branches in many places, and small berry-baskets, securely fastened, contained sunflower and hemp seeds and barberries. Loosely woven cord bags, resembling the traditional stocking, were filled with cracked nuts, which the birds reached through the interstices. On all the trees and shrubs around the house suet and bones were tied.

Birds were not lacking to enjoy such a royal feast. The tree was never without gusets, though morning and late afternoon brought the largest number, and the lawn was a popular resort. The company was composed of Chickadees, Juncos, Hairy and Downy Woodpeckers, Brown Creepers, Golden-crowned Kinglets, Blue Jays, Tree Sparrows, Pine Grosbeaks (in full plumage) and White- and Red-breasted Nuthatches. The Chickadees were the tamest, though one Red-breasted Nuthatch fed from his hostess' hand. One day the birds were honored with a visit from Mr. Burroughs, who came across the river to enjoy their Christmas cheer.

While such a tree might be impracticable in a city home, some features of it would no doubt be successful in attracting more worthy visitors than the English Sparrows.

Incidents of Bird Life

By GEORGE H. GILBERT (aged 11), Northampton, Mass.

ONE day when I was sent to shake rugs, the market-man drove up, and gave me a piece of suet for the birds. I took it and went out to a hemlock tree about seventeen feet from the house, and waited. Very soon a Nuthatch came and began to eat the suet which I held in my hand. Then another came to the suet, and both ate right there until they were scared by the milk-man.

Another day, a little later, as I was coming from school, the path led by a tree where there was a Chickadee. I had a piece of bread in my pocket; so I took it in my hand, and stood still. Very soon the Chickadee lit on my finger and ate the bread. I was sorry that I did not have more, and when I got back with another crumb the little fellow had flown away.

One Sunday, not long ago, we had at the suet and cracked corn: 5 Juncos, 2 Nuthatches, 1 Downy Woodpecker, 2 Goldfinches, 4 or 5 Chickadees, 3 Tree Sparrows, 3 Blue Jays and 2 Red Squirrels, all out there in ten minutes.

NATIONAL COMMITTEE OF AUDUBON SOCIETIES

EDUCATIONAL LEAFLET NO. 12



THE SHORT-EARED OWL

Order — *Raptores*

Family — *Bubonidae*

Genus — *Asio*

Species — *Asio accipitrinus*

The Short-eared Owl

By WILLIAM DUTCHER

Chairman National Committee of Audubon Societies

DESCRIPTION

Adult Male and Female.—General aspect above black and ochraceous mixed, each feather having a dark center with an edging or other marks of ochraceous; the females averaging considerably darker than the males, both the black and ochraceous being more intense. Wings and tail dark brown, above barred with ochraceous of varying shades, the under surface of both being very markedly lighter in color. Underparts varying from almost white in the male to deep ochraceous in the female; streaked broadly on breast, and narrowly on abdomen and flanks, with dark brown. Face with a large white or very pale buff ruff and large black rings about eyes; bill and claws almost black; toes feathered to base of claws; eyes large and bright yellow in color.

Size.—Varies from 13.80 to 16.75 inches from tip of bill to end of tail.

Nest.—Is always on the ground, hidden in a tall bunch of grass or weeds, in a slight hollow not over two inches in depth. The lining of the nest is a few feathers and a small quantity of dead grass.

Eggs.—Usually from four to seven in number, white in color, usually with a faint creamy tint (Bendire).

The distribution of the Short-eared Owl is so extended that it may properly be considered one of the most cosmopolitan of all species of birds. It is found in nearly all parts of the Western Hemisphere, except portions of the West Indies; and it also inhabits the Eastern Hemisphere, except Australia. In the United States it breeds northward from about latitude 39 degrees. This species is more migratory in its habits than most of the other Owls; sometimes being found in quite large bodies, especially on the southward migration after the breeding season is over.

If all birds were named from some prominent characteristic, this species of Owl might properly be called the Marsh Owl, as it shuns the wooded districts, and is found almost exclusively in the open country—marshes, meadows, savannas, and beaches along the coast. While these Owls commonly hunt for food at night, yet they are very much more diurnal in their habits than most of the other species of Owls; and it is no uncommon occurrence to see Short-eared Owls coursing over a meadow in the daytime, especially if it is somewhat cloudy or dark, or is early or late in the day. When not hunting, they remain hidden in the tall grass or weeds, from which they will not flush very easily.

Economically, the Short-eared Owl is of the utmost value and deserves the most rigid protection. All of the evidence obtainable regarding this species indicates that its food consists almost exclusively of noxious animals, with some insects. Referring to Bulletin No. 3, United States Department of Agriculture, it is stated: "Fully 75 per cent of the stomachs examined contain mice. The remains of as many as six of these little mammals were found in one stomach, and several contained three or four each. Of the other mammals which this Owl feeds upon may be mentioned shrews, gophers, and sometimes small rabbits. In one specimen a pellet ready for regurgitation contained ten nearly perfect skulls of shrews." The same character of testimony comes from both Europe and Asia, for in Yarrell's

'British Birds' it is stated "that when plagues of mice occur Owls throng to the spot, rendering the greatest service in extirpating the pests." Undoubtedly the Short-eared Owls prey to a very limited extent upon small birds: but the percentage of harm is so small, when compared with the good the Owls do, that it should not be taken into account. Their regular and principal food is noxious mammals, with some beetles, locusts and other insects, and an occasional bird. It is a very well-authenticated fact that in large game-preserves, where Hawks and Owls are shot to the point of extermination, the inevitable result is an abnormal increase in rats and mice, even to the extent of a plague.

On one occasion the writer kept a Short-eared Owl in captivity for about a month, in order to study its habits. It was confined in a large box with a wire front, at first in the open air and, subsequently, in a light cellar. Every effort was made to tame its wildness, by handling it with the greatest gentleness and never approaching it abruptly. No measure of success attended the effort; on the contrary, the Owl seemed to grow wilder and more excitable when approached. A visitor was always saluted with a series of violent hisses, accompanied by a ruffling of the feathers over the whole body. The hisses were often followed by a violent snapping of the mandibles, which was continued for some time, especially if food were not given. If the visit were in the daytime, the exhibitions of fear or temper were much more violent than at night. This may be accounted for from the fact that at night the Owl was dazzled by a bright light being held within a few inches of the cage. If the light were moved from end to end of the cage the eyes of the Owl always followed it, thus showing that the light was a much stronger attraction than the visitor; however, the light was by no means so absorbing that it prevented the Owl from seizing food when presented, if hungry; if not hungry, no attention would be paid to anything but the flame. If food were seized it was merely held by the claws until the light was removed. It was also one of the Owl's habits to hold surplus food with one foot when its hunger was satisfied. On a number of occasions a surfeit of house-mice was offered, but the Owl would not eat to exceed more than three mice at one time.

Once the process of disgorging a pellet was observed. The Owl was about to be fed, when it commenced a series of contortions which seemed to involve the whole body. Three of these movements or contortions took place, then a pellet was thrown from the Owl's mouth. It was nearly two inches long, and about three-quarters of an inch at its greatest diameter. It was covered with a slimy substance which made it very slippery. The pellet dried quickly, when no trace of any greasy substance was found, and it is therefore probable that the lubricating matter must be lodged in the throat and stomach of the Owl and is only used in small quantities on the surface of the pellet, not being mixed with the whole mass.

The feeding habits of Asio were very interesting and repaid the labor of securing his daily fare of mice, which was the favorite food; raw beef or other meat was refused unless the Owl were very hungry. At first only such food was taken as was thrown into the cage, and then only when the Owl was left alone; but after about ten days' captivity, food was taken from the hand, if the bird were very hungry, but not otherwise. The Owl would look at the proffered meal, first with one eye and then with the other, and finally with a stroke, as quick as a flash of lightning, would catch the food with a foot, usually the left one, but never with the bill; almost instantly the food would be transferred from the foot to the bill. The two movements were sometimes so quickly made that it was impossible to follow them with the eye. Mice, no matter how large, were invariably swallowed whole, tail first. Before eating an English Sparrow a portion of the plumage was removed; first the large feathers of the wings and tail were pulled out, together with some from the back. All the smaller and softer feathers were swallowed. The head was eaten first, followed by the soft portions of the body and finally the breast and wings. All the ~~parts~~ were swallowed, as well as the legs and feet.

An attempt was made to associate a Screech Owl in the same cage with the Short-eared Owl, but it proved decidedly unsuccessful and it was impossible to determine which of the two Owls was the most frightened. The Screech Owl crouched in one corner of the cage and uttered a series of low whistles, while the larger bird jumped from end to end of the cage in a frantic manner, hissing and snapping its bill. Peace and quietness was maintained only by a separation of the thoroughly frightened Owls. Shortly after this both Owls were taken at night to a clump of pines in Central Park, New York City, where they were liberated, and the last seen of them was their shadowy forms disappearing in the dim light of the stars twinkling through the arches of the grove.

Study Points for Teachers and Students

Trace distribution of the Short-eared Owls on the map. Give some of the life-history of Short-eared Owls based on your own observations. What are Shrews? Gophers? What is the meaning of Ochraceous? Cosmopolitan? Diurnal? Regurgitation? Mandibles?

For additional valuable information regarding the Short-eared Owls, consult the reference books named in Leaflet No. 8, also "Observations on Owls, with Particular Regard to their Feeding Habits," American Naturalist, July, 1899.

onod

to

BINDING LIST MAY 15 1953

QL

671

A82

v.4-6

Biological
& Medical
Serials

Audubon

PLEASE DO NOT REMOVE
CARDS OR SLIPS FROM THIS POCKET

UNIVERSITY OF TORONTO LIBRARY

STORAGE

